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Original Articles

THE MEDICAL COMMISSION*

IRREGULAR PRACTITIONERS.

By Arthur Jukes Johnson, M.B., M.R.C.S., Eng.
Chief Coroner.

I have been asked to speak as to my own personal experience with irregular practitioners.

They are a menace to the public and to society generally, chiefly from two standpoints:

1. *Because of their undertaking to cure disease of which they know nothing and thereby prolonging suffering.*

2. *Because their ill-directed efforts are not always free from danger to life itself.*

There are a large number of persons in this Province who are more or less weak-minded. If they are admitted to an asylum many of them at times are so bright and clever that their friends will not believe that they are fit subjects for an asylum. Friends induce the relations of such people to try something new, something that it is supposed medical men do not know anything about, something that has some mystery about it.

The irregular practitioner, not understanding anything of insanity, looks upon these cases as any other person who did not understand mental conditions might, as being a mere nervous affection, and at once promises a cure. The patient is taken into a half hospital, half private house, where the irregular practi-

* This series of articles represent the views of different members of the profession, as laid before His Lordship Mr. Justice Hodgins, K.C., Medical Commissioner in the investigation that has been under way for the past two months or more, and we feel gratified to be in a position to give our readers throughout the Dominion the benefit of such interesting material.

tioner lives, and is treated there, chiefly by somewhat coarse methods of massage. As soon as another attack, accompanied by the more marked symptoms of insanity, occurs, this patient either escapes, or commits suicide, or gets into some other place of the same kind to repeat the same process.

A number of these cases have come under my notice. In some inquests have been held, in others a certificate of death has been secured from a regular practitioner, either through misrepresentation or by some other method equally disgraceful.

When an attempt is made to inquire into one of these cases the result generally seems to be that the coroner's jury are inclined to think that the deceased had already been treated in an asylum, and had not improved, and that the irregular practitioner had almost succeeded in doing something, which, however, he failed to accomplish, and that under any circumstances a broken-down, more or less decrepit, semi-insane person could easily be spared.

Two cases at present in hospital in the city of Toronto will illustrate the danger of treatment by irregular practitioners. One is the case of a gentleman who contracted a disease without his knowledge, which when properly treated can be cured absolutely. This man tells me that he has been under the hands of a large number of regular and irregular practitioners. That the suggestion of three years of constant treatment which the regular practitioner told him would be absolutely necessary for him to observe to enable him to be made perfectly well was too old-fashioned and slow. He therefore tried various irregular practitioners. They all promised him that he would walk again, quite well, in a short time, and be able to attend to his business. He grew steadily worse, and is now under the care of one of this committee. This poor man will probably never recover completely, but he will improve. It is too late now to accomplish more.

Another case is that of a young girl who for many weeks has been under the treatment of an irregular practitioner in the city of Toronto. She paid a large sum of money at regular intervals for this treatment. She has always been assured that she has nothing the matter with her but what could be made well, and she has now drifted into hospital a veritable wreck, with a form of disease that is absolutely incurable, as far as science knows.

The suggestion which has been made that the irregular practitioner should be allowed to put some of his forms of treatment

into execution in the Home for Incurables and other such institutions would, judging by the above cases, merely produce an amount of unnecessary suffering without any good result.

Where death has resulted from improper treatment, or gross ignorance of the disease from which a patient is suffering, we have had a number of cases.

In the case of *The King against Lewis* it was shown that a child of the accused had diphtheria, that the child was treated by a healer, who did not believe that the child had anything the matter with it that could not be removed by silent treatment. In this case it was shown that at the present day only a half of one per cent. of children who suffer from this condition die from it if properly treated.

Lewis was found guilty at the Assizes of manslaughter, because he did not supply his child with proper medical attendance, such attendance being one of those things that it was necessary for a parent to supply to his child when ill. The case went to the Court of Appeal, but the Chief Justice's ruling was sustained.

In a case which occurred in this city last January, a woman was said to have some condition which was described by the irregular practitioner who had attended her, when he was called as a witness, as arising from "an impingement on a nerve which passed out of the spinal column," and for which he gave her a large number of treatments for the purpose of getting the bones of her spine into "alignment." She died rather suddenly, and the neighbors reported the case to the police, and upon inquiry I thought an inquest had better be held. I, myself, examined this poor woman's body. There was nothing whatever the matter with her spine or spinal column. There was no impingement on any nerve. The bones of the spine were not out of alignment. The history of the case was of the simplest possible character. She had caught cold, had a pleurisy which had gone on to become purulent, one side of her chest being full of matter. This is a case which might have been saved, if the woman's chest had been tapped, or if the condition had been appreciated and any treatment which would lead to the absorption of the fluid had been adopted.

The man who treated this case was examined at the inquest. He described the condition he supposed the deceased to have suffered from. When asked as to what nerve it was that was impinged upon he said it was the first nerve, and on further cross-examination he did not know the name of the nerve; he

did not know its distribution; he did not know its function, whether it was a nerve of sensation or a nerve of motion. In fact he said that those "were not matters that his school took any note of."

It has been suggested that these irregular practitioners should be allowed to give evidence in our courts. This is hardly a question that can be discussed. If a man does not know the anatomy of the human body, if he is ignorant also of the physiology and normal action of the different organs in the body, of what value can his opinion be? If he does not know the function of the nerves in the body, the effect of certain conditions of the blood vessels, it is hardly possible to conceive how he could presume to give evidence. And yet these men are ready to give evidence.

In the Lewis case, above referred to, a gentleman while on oath declared that nothing could harm him; that if he was hit by a bullet shot at him, it would not hurt him; that he was immune; that he could drink carbolic acid, and that it would not affect him. This statement was too much even for the jury.

In an inquest that I held nearly twenty years ago, one of the first inquests that we had arising out of matters of this kind, one witness had the effrontery, upon oath, to declare to the jury that the deceased was not dead. Whatever explanation this statement might permit of, it is to say the least dangerous and misleading to the average juryman.

If there is any form of treatment that is known to any irregular practitioner in which there is value or honesty, the medical profession are only too glad to welcome it, to try it, to discuss it, to understand it, and, if there is anything good in it, to adopt it.

From time to time in the world's history great discoveries have been made in medicine, and have been of great value to the public. Medicine is a progressive science, and where a suggestion is made of something that has recently been discovered there are always lots of men ready to take it up and put it to the test. This very work is being done here in the city of Toronto in the Research Department of the University of Toronto and the Toronto General Hospital, and is being carried out more or less in the ninety-six hospitals that are established throughout this Province. Research, however, differs in one marked particular from the so-called treatment adopted by irregular practitioners. Research is not undertaken for money. It is not undertaken because of something that may be learned

thereby that nobody else shall ever share in. It is undertaken for the sole purpose of the advancement of science, of alleviating distress, of lessening pain, of prolonging life, and where life cannot be prolonged past a certain point, of alleviating suffering which otherwise would be unbearable.

THE EDUCATED PHYSICIAN VERSUS THE IGNORANT MANIPULATOR.

By Goldwin Howland, M.B., Toronto.

Your Honor.—I desire to impress three very definite facts in regard to this subject, as follows:—

(1) The necessity of a full medical course for those who intend to practise medicine in any form and to be known as "doctors" by the community.

The study of the diseases of mankind has become enormously increased in the last twenty years, and the amount of knowledge collected from all over the world is becoming very vast indeed.

Originally there were only practitioners who practised all forms of the art of healing, but soon there arose the specialists in surgery, in eye and ear, nose and throat, obstetrics and gynecology.

To-day, in all the great centres, a new class of men have arisen, the medical specialists who practise alone the subjects of tuberculosis, or diseases of the lungs, or of the heart, or of the skin, or of the digestive tract, or of the kidney, or of nervous diseases.

Two causes have produced these divisions of medical work, namely, on the one hand, the public demand the most recent methods in the diagnosis and treatment of their diseases, or they will go abroad to find them; and, on the other hand, the volume of knowledge in each of these departments is so great that no man living could manage to acquire proficiency in all. In fact, it is well nigh impossible to remain up-to-date in any one single branch.

Now the point I desire to illustrate from this argument is this, namely, that a four or five year course in medical education produces a man who, compared with the medical and sur-

gical specialists, is largely an undeveloped physician; but it at least gives a man an excellent foundation and a general knowledge of disease that will enable him to successfully treat the public in their ordinary ailments and will enable him to acquire, with steady work, fuller knowledge with comparative ease.

But, your Honor, to suggest, as I understand it has been done, that a year or two-year course could fit a man to practise, is an absolute impossibility and would render the profession an absurdity and be a serious injury to the public, who rely on the ability of the man who is termed a *physician.*

(2) My second point that I desire to lay before you is the difference between the standard of the *medical practitioner* and the non-qualified individual who *professes* to treat diseases.

The medical man takes a five-year course and gets a splendid grounding on the subjects of the cause, the nature, the location and the treatment of disease.

By these methods the greatest of all arts, and that which requires the greatest skill, is acquired, namely, the ability to diagnose and tell what the patient is suffering from. A very large portion of the student's time is spent in this direction, and concerning the work of the physician in his own lifetime, the greatest and most important of his duties is again this diagnosis of disease.

It is impossible to lay too much stress on this particular feature, for this ability to determine the disease *distinguishes the educated physician from the quack and the non-professional "treater."*

When it comes to the treatment of the disease, the medical man must also be educated to realize the value of all forms and to apply them to their proper and best advantage.

But he is unable to himself practise the manifold forms of treatment, although he must be well educated to appreciate and to direct their application.

To meet this contingency there has arisen in our midst a class who devote their time entirely to *treatment*, and within this class I include all such divisions as the chiropractor, osteopath, the masseuse and the viavi operators, the optometrist, the hydropath, and many other similar non-professional men.

These individuals in most cases do most excellent work along their own lines, but they form the class of the "treater" in contra-distinction to the educated medical practitioner.

They all profess to diagnose disease, and in most cases ascribe it all to one source, which doubtless is a great saving

of mental worry to them, but is of course an absolute absurdity. When you have practised for many years and have seen case after case of people suffering from cancer of the brain or spinal cord, from bleeding into the brain, from syphilitic diseases of many types in the nervous system, from inherited and degenerative diseases, and from many other maladies, which examination after death have proved real and visible conditions, you will realize the utter disgust which an educated man must feel when he understands that these same sufferers have all been told that they had all the same disease, namely, a little kink in their spine.

This, sir, is the condition to-day: in short, an educated body of men, termed the medical profession, who advise and select all forms of treatment for the cases they diagnose, and on the other hand an ignorant or partially educated class who pretend to diagnose, but who are proficient only in one single branch of treatment.

Finally, there is the class of men, I may add, who are qualified practitioners and who prefer to practise only one form of treatment such as I have elucidated above. These are very few in number, but do excellent work.

On this ground I would urge, your Honor, that it is in the interests of the public that these two main divisions should be kept absolutely *separate*.

The regular practitioner, that is, the *individual who is able to diagnose as well as treat*, must take a full-time medical course, at as present prescribed.

The University must furnish him with every opportunity to become a high class practitioner and adept in the knowledge of all forms of treatment.

If he desires to practise any special forms of treatment, such as osteopathy, massage or electric therapeutics beyond the scope of the work, that should be taught in the University in order that the value of all physical methods may be understood, then he must take such course where it is elsewhere offered.

In regard to the question of the education and organization of the second class irregular practitioners, I desire to state my views apart from my position as a representative of the Academy of Medicine, and I do so because from my work as a nerve specialist I am constantly in touch with the work of these irregular practitioners.

I am of the opinion that there should be a school for the medical application of the physical sciences, similar in its con-

struction to the technical schools, which offer a parallel education in other trades.

The Board of such a school should include the president of the university, and the professors of anatomy and physiology of the university, and of representatives of the Medical Council, and of men from each of such classes of irregular practitioners as the Government should consider to be eligible.

The courses of training should be at least two years, and should consist, mainly, (1) of anatomical and physiological courses taken under the control of the university, and (2) of such series of courses in the study of massage, osteopathy, electro-therapeutics, X-rays, and other like methods as may be advised to the board by the representatives who compose its members.

Such courses should be followed by examination under the board, and should enable the successful competitors to arrive, not at the degree of doctor, but must lead only to a certificate of skill or ability in all such physical sciences or in such as they may elect to take.

The courses in anatomy and physiology would be imperative, while the courses in the second group could be selective.

As to the present irregular practitioners in the Province, I would suggest that they either proceed to the fuller degree of doctor by taking such work as is required by the university, or that they be required to pass the examinations of this board for the medical application of the physical sciences without any further delay.

Candidates failing to pass should be deemed irregular and legally be disqualified from practice.

As to the cases of such masseurs and other persons whose education or desires render it impossible for them to take such courses.

In these cases, and in order not to injure any in this class, I should suggest that they should be legally disqualified from advertising their profession, but should be allowed to obtain their work indirectly from qualified persons.

Finally, I should add that no degree from any foreign country or other province should be accepted without the unanimous consent of the board, this clause being inserted to prevent a majority of the board combining together against the objects of this institution.

Separate chartered institutions conducted by those sects appears to me unwise and certain to lead to disaster to the public.

Under these conditions those certificated "treaters" would be at the disposal of the medical profession and of the public, but under no condition would they be allowed to diagnose disease, or to term themselves physicians, because the latter term to the public means "ability to diagnose."

Concerning those at present in the practice of these various forms of treatment, they can of their own free will determine into what class they are prepared to enter, namely, the educated ranks of the medical profession or into the class of the certificated masseur or osteopath.

If into the former class, it will be necessary for them to complete the defects they possess, by taking such a number of years university work as is necessary to fit them to become skilled in the diagnosis of diseases; while if they elect to become "certificated" they should be under the onus of obtaining the certificate on examination, as above proposed.

Finally, all non-certificated practitioners should, I believe, be considered "under the law," and treated as dangerous to the public.

(3) The third point I desire to make is, that the public must be protected from the ignorant practitioner.

In the ancient days of the medical profession, it was thought and stated frequently that all disease came from the liver. To-day modern science has proved, and proved beyond all doubt, that the sources of disease are manifold, and that it requires the greatest care to discover the cause in any individual case. Hence we have such diseases as syphilis, due to a definite germ, with a great group of diseases produced by it; we have all the various forms of tumors: the types of worms and the growths they form in the body when they migrate; the infective diseases as typhoid, malaria, etc., the tuberculous group; we have the diseases following poisoning by lead, alcohol, arsenic, and we have many other groups with like definite causes, and definite results, worked out by scientists who have devoted their lives to this subject.

Against this you have new cults, claiming in the face of all this science that all disease is of local origin, in some spinal displacement. It is the old question—years ago of all disease coming from the liver, and now from the spine. And it is

simply the idea evolved from ignorance to enable the individual to escape the toil and work that is necessary to form a diagnosis.

To illustrate my contention that the public must be protected, let me illustrate by reference to some groups of nervous disease.

There is a large group of diseases, where the disease is transmitted from mother to son, and attacks the boys usually, but is transmitted by the girls, who usually escape themselves. These sufferers are usually incapacitated from work in a few years, and medical science has found no cure, nor do we expect to find one when the disease is in the "strain," so to speak.

These cases must be honestly told of their condition, and that no cure on earth is known. But I find in the hands of the ignorant practitioner that they are submitted to long courses of treatment at much expense, not because it is desired to cheat the patient, but because of ignorance as to the disease and its course.

Again, in the class of the degenerative diseases of age, there is no cure to be expected or known here, and again we find the same unfortunates spending their last earnings in order to take treatments that have never succeeded in curing any case.

Among the cases at the Hospital for Incurables, seventeen of the recently admitted cases had taken osteopathy or chiropractics, and a few years ago we had a skilled manipulator permanently in the hospital, and while he did give temporary relief to a few cases, yet not one was ever sufficiently relieved to leave the Home; that is, they were still incurable and incapable of active life in any form.

Perhaps it might be urged that relief is given, and this is true, but in this class of case there are other forms of physical treatment that are not costly and do the work with greater advantage. But the point is they are urged to take the treatment with the prospect of cure, which both physician and patient, with equal ignorance and hope, expect to see.

Again, in the large class of diseases due to infection, which some of the most ignorant of this class of practitioners do not believe in (a sign that points to mental lack of balance)—in this class lie the types of disease called meningitis.

Now in this group it is absolutely necessary to examine the fluid that circulates throughout the brain and spinal cord, and by a simple technique it is possible to obtain this.

In these three specimens I show you two are clear and one is clouded. They were obtained from hospital cases.

Of the two clear, one is a man in full health, and the other is from a patient who is suffering from general paresis, and is going on to the asylum.

The examination of these fluids is done by all students, and yet it demands a knowledge of all the sub-divisions of medicine —bacteriology, chemistry and microscopical work. Yet, as a result, we can foretell the fact that these cases will shortly become mentally incapable of making a will.

What can the irregular practitioner tell? He is hopelessly at sea to such a diagnosis, because it demands an education, and he is purely a "treater."

The third tube is from a meningitis case, and it is easy to see the difference, as the milky color shows the presence of pus.

Now this last may seem a simple deduction, but again it is necessary to examine the fluid by other means, because it is possible to determine still further the cause, and it is only in certain causes that we have so far managed to secure any cure.

In these cases a week taken in making a diagnosis may mean death; cure only comes in early treated cases.

That it is impossible with safety to the public to allow uneducated men to practise as physicians, is easily evident from such a case.

Finally, in regard to the nerve prostration cases, and the hysterics, which are the happy hunting grounds of all irregular practitioners, my experience goes to show that no one form of treatment is any better than the other. In these cases the masseur, the osteopath, the chiropractor, and the electrician, and all the others seem equally to succeed and equally to fail. It is customary with these patients to pass in turn from one method to the other, quoting success for the time, but in time again relapsing. Even as forms of treatment there is no surety that any of these will definitely cure.

I have purposely refrained from describing the errors I have observed in diagnosis in my acquaintance with these irregular practitioners: I realize that we all make mistakes at times: that the physician's local errors will naturally at times be detected by the skilled manipulator, just as the architect's mistakes are revealed by the carpenter: but this in no way lessens the fact that the irregular practitioner, apart from his experience in these smaller local conditions, is wholly unable

to diagnose the enormous number of diseases of the body of which their local conditions form only a fraction. I can truthfully say that I have never yet seen a single correct diagnosis made by my unlearned confreres; and apart from the serious errors that I could describe, but which I see no reason in detailing, I may add that I have yet to see one organic disease of the nervous system which they have cured.

It is unnecessary to prolong this argument, but let me recapitulate my remarks:

(1) The medical practitioner is a highly educated man, trained to diagnose the cause and nature of disease, and to deduce proper treatment, and in cases to carry it out.

The irregular practitioner is an uneducated man as regards the science of medicine, and is only a technical agent in the treatment of disease.

(2) These two classes must be kept separate, and while the medical profession must be kept up to its full standard, and in time this raised still higher: on the other hand these irregular practitioners must be controlled and limited entirely in their prerogatives to treatment, in no way whatever being allowed to assume any position or work where diagnosis is necessary.

(3) The man with a university education should only have the right to the degree of doctor, which to the public means having the ability to tell what is the matter with them.

(4) The non-educated practitioner should be certificated, and not degreed.

(5) No American degrees of any sort should be recognized.

I must thank you, sir, for your attention.

DIAGNOSIS AND ITS IMPORTANCE.

By J. H. Elliott, M.D., Toronto.

I desire simply to say a few words, your Lordship, with reference to the importance of preliminary training. Preliminary training in certain scientific lines is, I consider, absolutely essential in order that a man may be qualified to make an accurate diagnosis, which is most important from the point of view of the treatment, and also important from the point of view of the family in order that the physician may be able to give an opinion as to whether the disease is one that is incurable or otherwise.

I believe it has been stated before this Commission that some of the preliminary studies, such as chemistry and bacteriology, do not form any essential part of the preliminary training of the man who wishes to treat disease. There are certain diseases which we feel we can differentiate only by a bacteriological study. Take, for instance, the malignant disease which we know as diphtheria, and diseases less dangerous, such as, say, tonsilitis. Now tonsilitis, from which the patient may feel extremely ill, may apparently be much more severe than a case of diphtheria; yet diphtheria is a disease which may be the cause of a widespread epidemic, and which an unskilled and unqualified diagnostician may not consider it necessary to treat any further.

By a study of bacteriology, pathology, chemistry and other necessary subjects, the trained physician leaves our university able accurately to diagnose disease, and in a position to at once check an epidemic, which might otherwise spread from this one case.

Then we have the microscopic study of sputum in order that the qualified medical practitioner may be able to differentiate tuberculosis from other diseases. And not only is this important from the point of view of diagnosis, but also as a matter of precaution for the rest of the family. Tuberculosis, as we all know, is an infectious disease. It is particularly infectious for children, and it is only by careful examination, by methods which are learned by a long course of study and by a study of biological reactions which are taught every student in his four or five year course, that they are able to make a diagnosis, positive or otherwise, as to the absence or the presence of tuberculosis in the child.

We have an instance before us now. We understand that our own University Base Hospital has been sent to Egypt. If our men had not been qualified by thorough training here in regard to microscopic diagnosis and study of the blood and the parasites which are found in the blood, they would be at an absolute loss in that tropical district to make a correct diagnosis and differentiate between malaria and other tropical fevers. Whereas, with their training, they are able accurately to diagnose and institute proper treatment.

In olden days, before microscopic diagnosis had been developed, a chill and fever was presumably malaria, and the man was dosed with quinine. To-day, thanks to the use of the micro-

scope, we can tell whether that chill is due to malaria or due to an abscess of the liver; and we can institute, correspondingly, proper treatment.

Now a word as to the subject of chemistry. Although in an advanced case of Bright's disease a physician would venture a diagnosis without a chemical or microscopic examination of the urine, in the early stages of the disease no physician would venture to make an absolute diagnosis without a chemical analysis and study of the urine or a microscopic examination of the same.

Another disease where early diagnosis is essential is cancer of the stomach. By a chemical examination of the stomach contents we are able to make a correct diagnosis of this disease and to institute proper treatment, and frequently to save life, whereas if the diagnosis were left until it could be made by ordinary observation, without chemical study and analysis, the patient would probably be in a hopeless condition and his life could not then be saved.

These, your Lordship, are a few instances which occurred to me from amongst scores which might be brought forward, and which I lay specifically before you to give force to our statement that a preliminary education in the subjects of chemistry and bacteriology are absolutely essential to the man who is going to practise medicine, and who, in order to be able successfully to practise medicine, must, for the safety of the public, be in a position to make an accurate diagnosis and be able to differentiate between the various forms of disease.

PREVENTIVE MEDICINE.

By Charles J. Hastings, M.D., M.O.H., Toronto.

I have limited my remarks, your Lordship, to the experiences we have had in the city of Toronto with regard to the significance and importance of preventive medicine. Inasmuch as I have not touched upon the important point of vital statistics, and as that was the concluding point regarding which you were questioning Dr. McCullough, I might say that vital statistics constitute the book-keeping of preventive medicine, the book-keeping of humanity.

We cannot possibly know just what progress we are making in the administration of public health or preventive medicine without accurate vital statistics. That is, if we have a statement or a certificate handed to us showing that a person has died from a disease, and that report is not based upon scientific knowledge and careful diagnosis, that party may have died of some incurable disease, and therefore we do not know just to what extent we are controlling that particular disease.

Our results, therefore, depend upon accurate diagnosis and upon our vital statistics, which show us just what headway we are making along certain lines. We may have a very low mortality from typhoid fever, diphtheria, or scarlet fever, and yet our general mortality for the city may be high. We can look over our vital statistics, and if they are accurately kept we can ascertain that the large mortality is due to deaths resulting from certain specific diseases.

So that your Lordship can quite readily understand the extreme importance of vital statistics, and the extreme importance also of death certificates being signed by those who have had that scientific knowledge and training which places them in a position to have made an accurate and careful diagnosis of the case they have reported upon. Without this scientific knowledge their statements and reports would be absolutely useless, and your Lordship will see that any reports they would send us in regard to any disease could not be recognized, knowing that the parties making them were not in a position to have made a proper diagnosis of the disease.

I think it is apparent to your Lordship and to us all that it is much more sane to prevent disease than to cure it, and when we realize fully, and get the public to realize, the fact that hundreds of thousands of dollars are spent annually for the cure of disease that should not have existed, then we shall recognize the extreme importance of scientific knowledge along these lines.

Probably the most valuable asset the Department of Public Health possesses is the full and hearty co-operation and endorstion of the medical profession. This co-operation would be useless without the scientific knowledge the regular physician possesses.

The science of preventive medicine is based on a full and complete knowledge of bacteriology, biology and diagnosis. We depend largely on early diagnosis of preventable diseases for

their early control, and inasmuch as the knowledge of bacteriology and biology is essential in many instances for this early diagnosis, the necessity for this scientific knowledge is obvious. The wonderful advances in the newer science of preventive medicine during the past decade is due, for the most part, to advances in the science of bacteriology and biology.

Previous to the discovery of the germ origin of disease, administrators of public health were, for the most part, groping in the dark. It was evident to them that certain diseases were transmitted from one person to another, but no one knew how. However, as the science of bacteriology advances our knowledge of the cause of the various diseases becomes fuller—as did our knowledge of the source and modes by which these diseases were transmitted from one person to another.

One need cite but a few instances of this to prove the correctness of the statement.

Our knowledge of the fact that typhoid fever is due to a specific germ, and that, in many instances, it is transmitted from one person to another either through our drinking water, our milk, or other foods—ofttimes through the medium of the house-fly—prompted us to obtain at once control of our water supply, complete control of our milk supply, and to enlighten the public in regard to the dangers of the house-fly, in consequence of which we have been able to reduce the mortality due to typhoid fever from 46.5 per 100,000 of population for the first ten months of 1910, to 1.4 for the first ten months of 1915. Again, the practical application of the scientific knowledge we possess as regards the course of diphtheria and scarlet fever and the manner in which they are transmitted has enabled us to reduce the mortality in the case of diphtheria from 41.8 per 100,000 in 1910, to 10.3 in 1915; and the scarlet fever from 24.7 per 100,000 in 1910, to 2.6 in 1915.

It was the knowledge obtained by scientific investigations in connection with tropical diseases by Sir Ronald Ross and Sir Patrick Manson, of England, and Laverand, of France, and Reed and his colleagues on this continent, that malarial fever and yellow fever were transmitted by two distinct species of mosquitoes, that enabled General Gorgas not only to make possible the construction of the Panama Canal, but also to enable Panama to vie with Palm Beach and other health resorts on this continent.

The mortality in the Panama district previous to this undertaking by General Gorgas was approximately 400 per 100,000.

It has now been reduced to one of the lowest on the continent, and is classed among the healthiest resorts on the continent of America.

It was the discovery of the tubercle bacilli as the cause of tuberculosis that has enabled the administrators of public health and the organizations in the campaign against this disease wonderfully to reduce the mortality during the past twenty-five years.

The application of scientific knowledge in the diagnosis of this disease has made it possible to recognize it at a stage in which from fifty to seventy-five per cent. of the cases can be cured.

Again, the pathological knowledge which has made possible the diagnosis of cancer in its earliest stages has enabled the profession, by prompt operative treatment, to rob this disease of much of its terrors.

The same may be said of the other degenerative diseases of middle life. The scientific knowledge which has for the most part revealed the cause of these conditions has made it possible in many cases to prevent, and in all cases to postpone, their development.

It must be apparent to your Lordship that the scientific knowledge necessary for the degree of "M.D.," of "M.B.," as conferred by our universities is the minimum knowledge that would be necessary to play any role in the accomplishing of the foregoing results, or in the field of preventive medicine.

This I would like specially to emphasize, inasmuch as preventive medicine is essentially the medicine of the future.

Reviews

International Clinics. Vol. IV. Twenty-fifth series. 1915. Philadelphia and London: J. B. Lippincott Company. Canadian office, Unity Building, Montreal.

This is the centenary volume of the *Clinics.* The first volume was published in 1891. During all these years *International Clinics* has taken a leading place in the current medical literature. Practically all the leading men in the United States and Canada, as well as many foreign contributors, have enriched its pages with their knowledge and experience. There have been over one thousand contributors, 3,043 articles and 5,212 illustrations. On the average each volume has been a book of over 300 pages. The usual number of good articles is contained in the present volume and the illustrations are, as usual, excellent.

Bacteriology for Nurses. By Harry W. Carey, M.D. Price $1.00. Philadelphia: F. A. Davis Company.

In this book the student and practising nurse will find a compact and useful knowledge of the principles of bacteriology, compiled from the lecture notes used by the author in teaching the nurses at the Samaritan Hospital Training School, Troy, N.Y. The subject has been presented in clear and simple language. Numerous illustrations adorn the text.

W. B. Saunders Company, publishers, of Philadelphia and London, have just issued their 1916 eighty-four page illustrated catalogue. As great care has evidently been taken in its production as in the manufacture of their books. It is a descriptive catalogue in the truest sense, telling you just what you will find in their books and showing you by specimen cuts the type of illustrations used. It is really an index to modern medical literature, describing some 300 titles, including 45 new books and new editions not in former issues. A postal sent to W. B. Saunders Company, Philadelphia, will bring you a copy—and you should have one.

Dominion Medical Monthly

And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH

Medical Examinations may prove a "deadhead" upon which the medical barque may be damaged or come to grief. The universities and the Medical Council should not be at loggerheads upon this very important question before the Ontario Medical Commission. Were they not requested by the Honorable Commissioner to get together, not to pull apart? *Verbum sapienti sat est!*

It is not right to see teachers in the medical department of the university arguing for the full control of all examinations, and the members of the Medical Council upholding the examination by the Council in addition to the examination by the university. The advocates of either scheme are in the main practitioners. As practitioners with the prime and noble purpose in view of protecting the public at the present time, they should be united and not divided; and it does not look well either before the public or the Commissioner for members of the profession to even appear antagonistic. University men, other than medical practitioners, may see fit to grab all for the university, but the university medical men should stand pat at the present time.

There should be no quarrel between the universities and the Medical Council. The members of the Council—and are they not all graduates?—are as proud of their universities, and as loyal to them, as any of their other graduates—in arts, in law, in medicine, or in science. They wish them well; prosperity, expansion, renown. Therefore it appears to be folly at the present time to interject the university control of all examinations, and especially so when the Commissioner wishes for clarity as to what the profession desires—not confusion, not antagonism.

But what about the student body? Are they to be given no say in the matter? And they are as much concerned as anybody in those same examinations. It would assuredly lighten their burdens to have but one examination. It is stated that a record is kept of the student's work. If such a record could be made the basis for a degree, then there should be no necessity for further examinations on the part of the university. That would lighten the student's burden. The university authorities, then, appear to hold the key to the medical examination question in their own hands. They can relieve the burden of the student. But, strange to say, instead of doing what they can do, they seek to cut out the examinations from another body over which they have not control. Nor should the universities, in the opinion of many, have the control over the profession of medicine in this Province. They have as much right to ask for control over the teaching profession, the law, or the clergy, pharmacy, dentistry, or civil engineering.

The medical profession in this Province, in the interests of the public, requires a representative body such as the Medical Council. If they are to be a properly constituted body, established in the interests of the public, then the university authorities, as well as the public, must be satisfied when the representatives of the people give them legal status. There can be no half-way measures. It must be full control over standards, examinations, license, discipline, etc.

Editorial Notes

THE FACTOR OF POVERTY IN SANITATION

The factor of poverty in sanitary problems was discussed in Washington November 26th by Surgeon-General William C. Gorgas, whose success in cleaning up Havana and the Panama Canal zone have brought him recognition as America's leading sanitarian. His audience was the Clinical Society of Surgeons, assembled in their twenty-fourth annual meeting. Dr. Gorgas said, in part:

"Such sanitary work as is necessary in the tropics is inexpensive, but measures directed against special diseases are not the greatest good that can be accomplished by sanitation.

"Before these great results that we can all now see are possible for the sanitarian, we shall have to alleviate more or less the poverty at present existing in all civilized communities. Poverty is the greatest of all breeders of disease and the stone-wall against which every sanitarian must finally impinge.

"During the last ten years of my sanitary work I have thought much on this subject. Of what practical measure could the modern sanitarian avail himself to alleviate the poverty of that class of our population which most needs sanitation? It is evident that this poverty is principally due to low wages; that low wages in modern communities are principally due to the fact that there are many more men competing for work than there are jobs to divide among these men. To alleviate this poverty two methods are possible, either a measure directed toward decreasing the number of men competing for jobs, or, on the other hand, measures directed toward increasing the number of jobs.

"The modern sanitarian can very easily decrease the number of men competing for jobs; if by next summer he should introduce infected stegomyia mosquitoes at a dozen different places in the southern United States he could practically guarantee that when winter came we would have several million less persons competing for jobs in the United States than we have at present. This has been the method that man has been subject to for the last six or seven thousand years, but it does not appeal to me, nor, I believe, to yourselves. This method is at present being tried on a huge scale by means of the great war in Europe. I do not think that I risk much in predicting that when this war is over and we shall have eliminated three or four million of the most vigorous workers

in Europe wages will rise and for a long time no man will be unable anywhere in Europe to get a job at pretty fair wages.

"But I am sure that every sanitarian would much rather adopt measures looking toward the increase of jobs rather than, as we have done in the past, submit to measures that decrease the number of competitors for jobs.

"I recently heard one of the members of the Cabinet state that in the United States 55 per cent. of the arable land, for one reason or another, is being held out of use. Now suppose in the United States we could put into effect some measure that would force this 55 per cent. of our arable land into use. The effect at once would be to double the number of jobs. If the jobs were doubled in number wages would be doubly increased. The only way I can think of forcing this unused land into use is a tax on land values. I therefore urge for your consideration, as the most important sanitary measure that can be at present devised, a tax on land values."

GENIUS NO FRIEND OF PROHIBITION

Is it not strange that wet England produced a Shakespeare, wet Germany a Schiller, a Bismarck; wet America a Jefferson, a Washington and a Lincoln, while prohibition Turkey never produced a single great man in all the centuries since Mohammed?

Its religion and civilization both rest upon prohibition. The beer-drinking Bulgars were more than a match for the dry Turks. There is to-day not a single example of superior manhood in the Turkish Empire. The prohibition Turks trail at the tail end of civilization. They are inferior in everything except bigotry, brutality and ignorance. Prohibition has utterly failed to elevate the standard of manhood and morality in the only country in the world where it is a success.

It is a matter of history that very few really great men were total abstainers. Men of character and ability, like Gladstone, Asquith and Salisbury; giants of intellect like Carlyle, Macaulay, Tennyson, Bismarck, Milton, Shakespeare, Luther, Bunyan, Wellington, Pitt, Socrates, Napoleon, Darwin, Dickens, and a host of others, were temperate, but not total abstainers.

Webster, Hawthorne and Clay were never total abstainers.

Washington and Jefferson owned distilleries, and Lincoln ran a tavern in Salem at one time during his career.—*Columbus Citizen.*

News Items

Dr. J. E. Hett has been returned Mayor of Berlin, Ont., by acclamation.

Dr. Leeming Carr, Hamilton, Ont., is to be the new chairman of the Board of Education of that city.

Dr. J. D. Macdonald, Huntsville, is to be Medical Officer of the 122nd Battalion being formed in Muskoka.

Dr. W. G. Cosbie, Toronto, who enlisted for overseas service, has been appointed Medical Officer for the 58th Battalion, now at Bramshott Camp, England.

Surgeon-General G. Carleton Jones, Director-General of the Canadian Army Medical Services, and now on active service, has been knighted by His Majesty King George IV.

Lieuts. C. E. Wilson, H. C. Sutton, H. B. Moyle, H. P. Rogers, A. W. Nixon and H. B. Stacpoole, all of the Canadian Army Medical Corps, have been gazetted lieutenants in the Royal Army Medical Corps.

Major Dr. D. P. Kappele of Hamilton, Ont., who went away as second in command of the Fifth Field Ambulance, has been promoted to the command of a field ambulance of his own. He gets the rank of lieutenant-colonel.

Dr. Geo. G. Nasmith, chief of the laboratories, Toronto, and who is on a furlough from France, where he was sanitary officer to the first Canadian Overseas Force, has been mentioned by Sir John French for distinguished services.

Dr. J. H. T. Halliday, Peterboro, Ont., fifty years a practising physician, was about Christmas time presented with a congratulatory address by his fellow-practitioners of Peterboro. Dr. Halliday has practised thirty-three years in that city, coming there from Grafton, Ont.

The following appointments have recently been made in the Canadian forces in London, England: Dr. James Donald, to be captain in the Medicals; M. MacAdam, appointed captain of the Army Service Corps; Dr. Norman Ferguson, appointed captain of the Medicals.

The Royal College of Surgeons has decided to add the Universities of Toronto, Queen's, at Kingston, and Dalhousie, in Nova Scotia, to the list of universities whose graduates in medicine and surgery may present themselves for examination for college fellowship without first becoming members.

Over 2,000 employees of Toronto hotels, restaurants and refreshment rooms are now required to be medically examined twice every year. This precaution is taken by Dr. C. J. O. Hastings, M.O.H., as a means of safeguarding the purity of the food given to people who eat in public dining rooms.

Dr. Frederick Etherington, in command of Queen's Stationary Hospital at Cairo, Egypt, has sent the following telegram to Dr. J. C. Connell, Kingston, Ont.: "Now 600 beds. Proposed conversion to general." This means that the hospital will become a general hospital of 1,000 beds, which will mean reinforcements.

Capt. James Moore, M.D., now home from London, where he has been connected with the Army Medical Corps, has been transferred to the 33rd Battalion, now at Quebec, to succeed the late Major A. V. Becher as Medical Officer. He will probably be given the rank of major. Capt. Moore expects to leave on Friday for Quebec.

Dr. James Roberts, Hamilton's Medical Health Officer, who has been at the Dardanelles many months in charge of a hospital, arrived home December 30th on a month's leave of absence. He said sanitary conditions at the Dardanelles were frightful. Every one of the 120 men in his unit suffered from fever and dysentery within a short time of their arrival at the Straits.

The Canadian Convalescent Hospital at Woodcote Park, Epsom, Surrey, England, has been placed under the command of Lieut.-Col. D. W. McPherson of 566 Bathurst Street, Toronto. The hospital contains 1,750 beds. Lieut.-Col. McPherson was in command of No. 2 Canadian Field Hospital in France with the 1st Canadian Division. He was given a farewell dinner in France and presented with a cut glass set mounted in silver by his fellow-officers.

Dr. Rowland B. Orr, Director of the Provincial Museum, Toronto, and Dr. A. Gagnon, Department of Public Works, Quebec, were the Canadian representatives at the nineteenth international Congress of Americanists, which took place at Washington, December 27-31, in affiliation with the section of anthropology of the second Pan-American Scientific Congress, and with the American Anthropological Association, the American Folklore Society, the American Historical Association, and the Archaeological Institute of America.

Two Toronto men have received promotions at the front. Dr. J. T. Clarke, who practised on Bloor street before enlisting, has been promoted to a lieutenant-colonelcy and is now in charge of No. 2 Canadian Stationary Hospital at Boulogne, France. He was formerly in command of No. 1 Canadian Stationary Hospital at Le Treport, France. Lieut. Arthur W. Ellis of 15 Spencer Avenue has received a commission. He is twenty years of age, and previous to enlisting was employed in the customs office. For some time he was connected with the Q. O. R.

The German Government has refused to liberate Hon. Dr. Beland, former Postmaster-General of Canada, who was captured at the fall of Antwerp. The German authorities are willing, however, to exchange the doctor for Lieut. Rintelen, now held under sentence of death in the London Tower for espionage. These advices were received in Montreal by Arthur Eerement, former member of Parliament, from Premier Borden, who announced that Mr. A. Bonar Law, British Colonial Secretary, had requested the Vatican authorities to petition for Dr. Beland's release.

An all-specialist staff is being chosen by Lieut.-Col. Bruce and Lieut.-Col. H. B. Anderson for the returned soldiers' Convalescent Home, Toronto. The following doctors have agreed to give their services gratuitously: Col. H. J. Hamilton, Dr. A. E. Webster, Dr. Goldwin Howland, Dr. J. H. Elliott, Dr. Brefney O'Reilly, Dr. R. W. Mann, Dr. Harold Tovell, Dr. W. J. McCollum, Dr. D. J. Gibb Wishart, Dr. Colin Campbell, Dr. G. H. Burnham, Dr. Newbold Jones, Dr. J. A. Oille, Dr. Arthur Wright, Dr. Charles B. Shuttleworth, Dr. A. Moorehead and Dr. Charles Temple. Captain Rogers has been appointed house officer. The staff will be added to from time to time.

The following are appointed on the staff of the Canadian Eye and Ear Hospital at Folkestone: Officer commanding, Lieut.-Col. Courtenay, Ottawa; second in command, Major Goldsmith, Toronto; adjutant, Capt. Bell, Winnipeg; Major Laviolette, Montreal; Captain Courtenay, Ottawa; Captain Taylor, Port Arthur; Captain Harrison, Hamilton; Captain Hunter, consultant, Winnipeg. Attached for duty—Colonel Casgrain, Windsor; Colonel McKee, Montreal; Assistant Matron Grand, Ottawa; Nursing Sisters Gallagher, Wolsley, Lindsay, Ottawa; Glass, London; Steele, Brockville; Bruce, Bowmanville; Whelan, Renfrew; McKee, Montreal; McLeod, Victoria; Donovan, Smith's Falls; West, Quebec; Housekeeper, Miss Baldwin, Ottawa.

The Judicial Committee of the Privy Council has dismissed the petition of Mrs. Roilard for special leave to appeal against the judgment of the King's Bench, Quebec, in favor of the city of Montreal. Mr. Lafleur, K.C., who appeared for the widow, said the case raised for the first time before the courts of the Province the question of the responsibility of municipal corporations arising out of the enforcement of compulsory vaccination by-laws. The petitioner brought an action against the city of Montreal, claiming $10,000 damages on the ground that she was obliged to cause her son to be vaccinated, that he was vaccinated by medical men employed by the city of Montreal with vaccine supplied by the city, and that owing to alleged negligence and bad quality of the vaccine used her son's health was so seriously and permanently impaired as to prevent him from earning his livelihood. The city denied negligence, and pleaded that the boy was vaccinated with care and skill and that the vaccine was the best in existence.

To ascertain, if possible, the attitude of the Ontario Government towards the future of Queen's University, Kingston, a deputation recently waited upon Premier Hearst and Hon. G. Howard Ferguson. Three years ago Queen's severed connection with the Presbyterian Church, and following this the Mining School agreed to affiliate with the University. The Ontario Government has been giving an annual grant of about $70,000 to the Mining College and the medical branch of Queen's, and the deputation desired to know if this would be continued once the Mining School and medical branch are absorbed in Queen's University. It was pointed out that the Government's attitude on this phase would have a bearing on the proposed amalgamation. On account of war condi-

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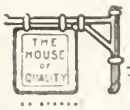
tions, it was stated that Queen's will have a deficit of $30.000, the large number of enlistments of students having brought about a decreased attendance. The deputation included Mr. Hamilton Cassels, K.C., Chairman of the Board of Trustees; Mr. W. F. Nickle, M.P.; Rev. Dr. Daniel Milner Gordon, Principal of the University; Sir John Willison, and G. F. Chown, the Registrar. Premier Hearst promised consideration of the deputation's case.

Lieut.-Col. C. A. Peters, who has been officially authorized to raise and command the No. 9 Field Ambulance, C.E.F., to be recruited within the 4th Division, has secured the services of Major A. G. Bazin, consulting surgeon at the General Hospital, to be his second in command. Headquarters will be established in the Guy Street barracks, the unit occupying the ground floor. Recruiting is now proceeding with enthusiasm. Included in this unit will be A Section, No. 2 Field Ambulance, which has been in training at Sherbrooke for some time under Capt. Eyres. A Section is ninety strong and has moved into quarters at Ottawa. This will leave about 150 men to be enrolled, as the strength of the unit will be nine medical officers, one quartermaster, 192 members of the Army Medical Corps, and fifty-six men of the Army Service Corps. All classes of men are needed for this work, and it is anticipated that the required number will speedily be recruited. The unit will be divided into three sections, each being practically complete in itself, so that when on active service the men may work in three different sections of the battle line. A list of officers has been selected and will be announced on receipt of approval from the Militia Department.

Coryza—Acute Nasal Catarrh.—This condition is manifested by a local congestion of the nasal mucous membrane, with an infiltration of serum into the tissues, and later an exudation on the part of the mucous membrane.

The local treatment calls for a remedy capable of relieving the engorgement by exosmosis, which can never be achieved by the use of acid or astringent preparations.

The use of Glyco-Thymoline in these cases purges the mucous membrane, relieving the congestion, and then, by stimulating the local capillary circulation to renewed activity, prevents a re-engorgement.



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Publisher's Department

It is said that the money paid by the United States industries on their borrowed money (that is on their bonds), amounts to more than the dividends on all their stocks. This is rather astonishing when one considers that when a man takes a stock he participates in the success of the business and shares in all the profits. A bond holder takes none of the business risks, but holds a mortgage on all the property, and because he odesn't share in the big profits, he is guaranteed that he will not get less than the interest stated. It would seem from this that in the long run bond investments are the most profitable. After all, when one has his money working for him every day in the year, including Saturday afternoons, Sundays and holidays, without any worry or need of attention, he is in an enviable position. Such a situation is obtainable by buying Municipal Debentures such as Messrs. C. H. Burgess & Company, Traders Bank Building, Toronto, deal in.

Enuresis.—In a report on progress in pediatrics Smith and Eustis (*Boston Medical and Surgical Journal,* July 22, 1915) define enuresis as a lack of bladder control after the third year. It is a symptom and not a disease, and should lead to an examination for retarded mental development, local malformations, ulcer at the meatus, phimosis, vulvitis, renal or bladder stone, tuberculosis of the bladder, threadworms, or anal fissure. Bogert regards it as a functional nervous disorder dependent upon chronic digestive disturbances. He analyzed the histories of 50 cases and noted "practically without exception gross errors in feeding." Consequently he restricts his treatment to the regulation of the diet and the general hygiene, the only drugs used being laxatives and intestinal antiseptics. He gives no figures, but says he has obtained "a fair percentage of cures."

Schwartz, after a study of 246 cases, writes that "a review of the records does not bear out the assertion that chronic digestive disturbances are more frequent in cases of enuresis than in other patients." He also found "no connection between the tonsils and adenoids and the enuresis." "The degree of acidity of the

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urine bore no relationship to the severity of the incontinence," and although 70.9 per cent. of the specimens examined were acid. " the urine frequently varied in reaction on different visits " without any change in the symptoms. " Neither do the hemoglobin estimations point to anemia as an associated symptom." He found the following abnormalities of the genitalia: redundant prepuce, preputial adhesions, phimosis, hypertrophied clitoris; and the following under the head of the central nervous system: nervous tic, chorea, imbecile, retarded mentality, indistinct speech, somnambulist, pavor nocturnus. He has nothing new to add to the treatment. In no instance did the customary hygienic and dietary measures effect a cure. The administration of atropine or thyroid was useless and alkalies seemed of doubtful value.

Simpson, on the other hand, in addition to regulating the general hygiene, uses drugs according to one of the following four methods:

Urine normal. Tincture of belladonna, gtt. x-xxv, t.i.d.

Urine acid, full of urates, and of high specific gravity. Potassium citrate, gr. x, t.i.d., or enough to reduce the acidity, and then tincture of belladonna.

Urine alkaline, of low specific gravity and increased amount. All carbohydrate food must be prohibited. " If the urine is very alkaline acid sodium phosphate may be given; when the alkalinity has been reduced belladonna should be used."

Bacilluria, usually B. coli. Urotropin gr. v-x, t.i.d., often combined with potassium citrate.

If the treatment with belladonna fails he considers that ergot should be tried, and also thyroid if the child is backward mentally.

Cahier has developed a method of treatment which he used first among the recruits in the French army, where it met with such success that some of his colleagues adopted it. He quotes Gaulejac as having obtained 50 per cent. of cures in treating 150 children with enuresis according to his method. He injects 40 to 60 Cc. of normal saline into the subcutaneous tissue of the perineum on each side of the median raphe. A single treatment is usually sufficient. The injection is made forcibly so that considerable distention results, " the aim being to act on the nerve terminals of the region by pressure." In some way this stimulus re-enforces the sensation of a distended bladder, so that the patient is waked out of a sound sleep by the desire to urinate.—*Ther. Gazette.*

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THE WIDE THERAPEUTIC RANGE OF PHENALGIN.—Few drugs have so wide a therapeutic range as Phenalgin. It is at once an analgesic, an anodyne and hypnotic, an antipyretic, an antiperiodic, and an eliminant. It possesses the good properties of aspirin, and is, moreover, harmless. For the relief of pain Phenalgin stands almost alone, producing the effects of opium and its derivatives without the harmful qualities of these narcotics. As an anti-pyretic Phenalgin is of extreme value, owing to its notable freedom from the depressing effects usual with this class of remedies.

The use of Phenalgin is indicated in the treatment of alcoholism, biliousness, cephalalgia, dysmenorrhea, gastro-intestinal disorders, headache, neuralgia, malarial fevers, neurasthenia, rheumatism and gout. It has been proven so reliable an anodyne in these affections that it is often referred to as "the logical supplanter of opium." Certainly countless physicians use Phenalgin in preference to the opiates, and thereby avoid the dangers of drug addiction.

ATLANTIC CITY HOTEL PLANS BIG ADDITION.—Work will be commenced immediately on a large addition to the St. Charles Hotel, St. Charles Place and the Boardwalk, Atlantic City, N.J., for the Newlin Haines Company. This addition to the list of fireproof Boardwalk hotels has been planned by Messrs. Hewitt & Paist of Philadelphia, who have made a study of the best features of seashore and resort hotels, both in Europe and America, many features of which will be embodied in the St. Charles. The contract for the addition has been awarded to Cramp & Company, Philadelphia, who are called upon to have the work completed by June 1st, 1916, in time for the summer season. The addition will be 12 storeys high, fireproof and modern in every detail, and it will be built in the centre of the large lot on which the hotel stands. This lot has a frontage on the Boardwalk of 75 feet, with a depth of 440 feet.

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Original Articles

THE MEDICAL COMMISSION

THE MEDICAL PROFESSION OF ONTARIO VERSUS THE IRREGULAR PRACTITIONER

The following is the statement made by Dr. H. B. Anderson, President of the Ontario Medical Association, before the Medical Commission under the Honorable Mr. Justice F. E. Hodgins:

Your Lordship:

The Ontario Medical Association was organized in 1880. Its ordinary membership consists of regularly qualified medical practitioners in good standing, resident in the Province, or those engaged in teaching or research work in medicine or the allied sciences, in the Province of Ontario. It is the Ontario Branch of the Canadian Medical Association. The present membership is about one thousand, and includes the leading practitioners of the Province.

Article 3 of the Constitution of the Ontario Branch of the Canadian Medical Association reads:

"Objects of the Association:

"1. The cultivation of the science of medicine and surgery.

"2. The advancement of the character and honor of the medical profession.

"3. The elevation of the standard of medical education.

"4. The promotion of public health.

"5. The furtherance of unity and harmony among its members.

"6. To form the connecting link between the members of the profession of the Province and the Canadian Medical Association, in accordance with Article 4 of the Constitution of the Canadian Medical Association."

At the outset, may I direct attention to the fact that the legislation passed from time to time to regulate medical practice in

Upper Canada, afterwards the Province of Ontario, culminating in the laws under which we are now governed, was for the purpose of affording protection to the individual and the community from unskilled, ignorant medical practitioners and quacks, by whom the country was overrun at an early period in the history of the Province. So much was this the case that there was a public outcry and demand for protective legislation. To substantiate these statements, may I submit the following:

"The Medical Profession in Upper Canada, Canniff, p. 26—Extract from an article contributed by the late Bishop Strachan, 1812:

"The Province is overrun with self-made physicians who have no pretensions to knowledge of any kind, and yet there is no profession that requires more extensive information. They comprehend not the causes or nature of disease, are totally ignorant of anatomy, chemistry and botany; many know nothing of classical learning or general science. Where shall you find *one* among them attending particularly to the age, constitution and circumstances of the patient, and varying his prescriptions accordingly. It is indeed preposterous to expect judgment and skill, a nice discrimination of diseases, or a proper method of cure from men who have never been regularly taught, who cannot pronounce, much less explain, the terms of the art they profess, and who are unable to read the books written upon the subject. The welfare of the people calls aloud for some legislative provision that shall remedy this increasing evil: and examination, however slight, would terrify nine-tenths of the present race."

A type of practitioner commonly found at this period is exemplified by the following extracts:

"Richmond, October 17, 1817—Advertisement—This is to certify that I, Solomon Albert, is Good to cure any sore, or any Complaint or any Pains, Rheumaticks Pains, or any Complaint what so ever the subscriber doctors with yerbs or Roots. Any person wishing to employ him will find him at Dick Bells. (Signed) Solomon Albert.

Page 28—"That illiterate and incompetent persons found their way into Upper Canada during the first fifteen years of this century may be gathered from letters which appeared in the Kingston *Gazette*. In the *Gazette* of June 2nd, 1812, is a letter from Gananoque, signed 'Candidus,' giving a copy of an account sent to Mrs. John Gould by a 'self-taught physician of this province'— 'The estate of Mrs. J. Gould Dr. To dr. for medsin and attendants whene he was choked with a large peas of butter no meat £3. A second letter, signed 'Credulus' refers to 'certain medical gentlemen who have out of pure charity come into this country from the neighbouring States to cure us of all our maladies.' They do not use opium, or calomel, but charms. He gives an account of the treatment of a tumour by stroking and using certain words to drive away 'the devil's swelling.' A third letter is about a shoemaker who went where unknown to practise and who being called to see a case of dropsy pronounced it pleurisy, and declared that 'tleglottomy' was demanded to reduce the body to natural size; but on being exposed took a hasty departure.

"A fourth letter refers to a bill sent in by a doctor, with a deduction of £6 for 'killing your son.' This was because the doctor had carried the smallpox to the son, who died of it.

"The following is an indication that at Kingston in 1815 the more intelligent public saw the necessity of protection against incompetent men. The Kingston *Gazette* contains the following:

"'To the public. *Facilis descensus Averni.* The Parliament of the Province, during the last session, provided in part against the imposition of empiries in medicine. This was not more necessary for the safety of the diseased than the reputation of the faculty.' Then follows an earnest appeal to the public and Parliament against quacks, their danger 'without one ray of science' who 'presume to thrust the created into the presence of the Creator.' Signed 'W.' (Not of the profession he says.)"

It was not a question of conferring unusual privileges on a body of medical men for their own benefit, or of creating a monopoly, but of giving them power to ensure to the people of the Province the services of well-educated, properly trained practitioners to attend them in sickness. We believe it, therefore, of much importance that there be a clear understanding of the chaotic and unsatisfactory condition of medical practice which gave rise to the public clamor for protection, and which resulted eventually in the establishment of the College of Physicians and Surgeons of Ontario.

The Ontario Medical Association believes that the College of Physicians and Surgeons, our universities and other organizations having control of the education and licensing of medical practitioners, have honorably and fairly discharged their duties in the public interest. The doors of the profession always have been and now are open for the admission of any who comply with the common regulations regarding education, training and examinations. In no sense of the word may the profession of medicine in Ontario be considered a close corporation.

The Ontario Medical Association holds that every person before being legally entitled to treat the sick should comply with the same educational conditions; whatever the system of treatment may be, it can be most intelligently carried out by one who is properly educated. This applies alike to preliminary as well as to scientific or professional education.

To understand disease and treat it intelligently necessitates a knowledge of the structure and functions of the body in health, as well as of the various conditions acting upon the body to produce change or derangement of these structures or functions—that is, disease. To be able to understand and treat disease intelligently, therefore, requires a proper training in anatomy, and physiology, by which we learn normal structure and function; in pathology, anatomy and pathological chemistry, by which we learn of the changes in structure and function encountered in disease; in chemistry, physics and bacteriology, in order to understand the conditions acting upon the individual to produce disease, and to acquire information necessary to apply preventive measures, requisite alike

to ward off disease in the individual and to protect the public, as in the case of infectious disease.

A study of the signs, symptoms and course of different diseases is necessary in order to be able to recognize them and to diagnose or differentiate one disease from another. Hence, proper clinical training is a pre-requisite of *any intelligent plan of treatment*, as it is obviously impossible to apply treatment properly or with safety until one knows what the disease or condition is that he seeks to remedy. These principles of necessity apply with equal force to whatever the mode or system of treatment, which may be deemed most useful or advisable for the relief of the disease, when once it has been recognized.

It follows, therefore, that the same scientific and clinical training is a pre-requisite *for all forms of treatment*. The arbitrary belief in any special dogma, system or plan of treatment can in no way relieve one of the necessity for this training in the fundaments of intelligent practice. The irregular systems of practice do not claim a special form of anatomy, physiology, chemistry, physics or bacteriology. Once the would-be practitioner is properly trained and legally qualified, no restriction is, or should be placed on his freedom to obtain further knowledge in any form of treatment or of the right to practise it within legal and ethical limitations. This is recognized under the medical laws now in force in the Province. Only by the acceptance of these underlying principles are equal rights and privileges granted to all, the safety of the public protected and medical science promoted.

In the countries of Europe these principles are recognized as underlying every legalized form of practice. For the state to recognize the right of any to practise medicine without the knowledge to be acquired only by training in the before-mentioned subjects, is to expose not only the individual but the public to grave dangers. The inability to diagnose may allow a patient with a diseased spinal column to be manipulated, producing dislocation, crushing of the spinal cord, paralysis and death; a tuberculous joint may be manipulated and the disease disseminated; an aneurism may be ruptured; apoplexy produced in a patient with high blood pressure or death result from manipulation of a goitre. Massage, manipulation, mechanotherapy, hydrotherapy and other drugless forms of treatment, are recognized and practised as a part of general medicine and require for their safe application the same ability to diagnose and select the proper cases as with medicinal treatment.

The public health would be endangered from any inability, owing to defective training, to recognize diphtheria, typhoid, syphilis, or other infectious disease, which depend for their diagnosis on clinical training and the knowledge to apply modern laboratory methods.

In medico-legal cases and death certification, the inability to recognize the disease being treated or the cause of death would open the door to possibilities too obvious to require emphasis.

Life and accident insurance companies have interests which depend upon the ability to diagnose accurately and manage properly diseases and injuries.

Modern medicine is opposed to the recognition of any special dogma or exclusive theory of practice, because acceptance of such excludes the necessity for testing out these theories, and the careful investigation and weighing of facts upon which scientific knowledge and practice depend for their advancement. At the same time it recognizes and encourages the investigation of every form of treatment in so far as it is without danger to the individual or the community.

Provision has been made in the Provincial university and in other universities of the Province, at great expense to the public, to furnish proper education and scientific training, which are prerequisite to treatment. The privileges of these institutions are open to all who prepare themselves to take advantage of them.

We believe that the Government would stultify itself by expending large sums to equip and maintain institutions to provide proper scientific training, if illiterate, inferiorly educated or untrained persons were granted the right to practise.

The Ontario Medical Association, whose members have had to comply with the educational requirements of these institutions and to pass the examinations prescribed to qualify them to practise, is opposed to the admission to practise on different terms of the graduates of inferior proprietary institutions of a foreign country. We believe that all should enter by the same door. The report of the Carnegie Foundation (1910, p. 163-6) says of the osteopathic schools of the United States: "The eight osteopathic schools fairly reek with commercialism. Their catalogues are a mass of hysterical exaggerations alike of the earning and curative power of osteopathy." "It is impossible to say upon which score the 'science' most confidently appeals to the crude boys or disappointed men and women whom it successfully exploits. Standards those concerns have none, etc." These are the statements made after an exhaustive investigation by commissioners who were not medical men.

The members of our Association, in order to qualify themselves for specialized practice, have had to spend often many years in post-graduate study abroad to extend their knowledge. If those wishing to undertake other special forms of practice have to go elsewhere for training or to extend their knowledge, after graduation in the regular way, they have a similar right and opportunity to do so; and for this no special legislation is required.

May we also point out the claims which the body of regular practitioners have for asking consideration of their views by reason of the gratuitous medical services which they have always rendered the indigent, and their efforts in furthering preventive medicine and promoting the public health.

At the present time hundreds of the doctors of this Province are overseas in the service of their country, and many hundreds of those at home are caring for the needy dependants of our soldiers. We submit that at such a time and in the absence of many from the country it would be an act of injustice and ingratitude on the part of the Province to give legal status to any body of inferiorly trained persons to practise and thus to jeopardize their interests unnecessarily.

In the questions now at issue the Ontario Medical Association wishes to place itself on record as taking the broadest possible ground in the interests of the community for the advancement of the science and practice of medicine—preventive as well as curative—as well as for the safety of the sick and ailing. We seek only equal rights for all in upholding those principles which are essential alike for the safety of the sick and ailing, and for the promotion of medical knowledge and practice in all its branches, which principles in this Province were established primarily for the protection of the people from the dangers of incompetent medical practice and quackery.

THE ROYAL MEDICAL COMMISSION

Parliament Buildings, Toronto,
November 29th, 1915.

Mr. H. S. Osler, K.C.: The body that I have the honor to represent before the Commission is the College of Physicians and Surgeons of Ontario, which is the practising medical profession, incorporated by the Legislature of this Province, the present Act of Incorporation being R.S.O. (1914), Chap. 161.

While the profession is incorporated in this way, the physicians who have the right to practise and who are so incorporated have no activities whatever within the College beyond the right to vote at stated periods for the election of the Council, so that technically, while the Council is separate from the College, of which it is nominally the governing body, in fact the Council of the College is the College itself to a greater extent than the directorate of an ordinary corporation.

I am here this morning simply to present the position of the College before the Commission, and I do not regard as within the scope of my remarks any controversial matters, and if any contention should arise in any way I would ask leave to appear again upon the subject in such a way as you may think fit to direct.

Now in so far as it seemed to me to be useful I have noted a reference to the legislation which has from time to time in this Province, and in the late Province of Canada, and the Province of Upper Canada, been in force regarding the medical profession.

The earliest legislation which may be usefully referred to is to be found in the Revised Statutes of Upper Canada, 59 George III., Chap 13 (1818), entitled an "Act to License Practitioners in Physics and Surgery throughout this Province."

By this Act a Medical Board was constituted of five or more persons, legally authorized to practise, such Board to be appointed by the Lieutenant-Governor, and to examine all persons applying for a license to practise, the Lieutenant-Governor to issue such license on certificate of the Board.

This legislation was re-enacted in substantially the same terms by Chapter 40 of the Consolidated Statutes of Upper Canada (1859), Section 1. I pass over all amending Acts in the interval.

The examining powers of the Board were continued, but by Section 8 it was provided that upon proof of identity the Governor might issue a license to any person exhibiting a diploma or license as physician or surgeon from any university in Her Majesty's Dominions, or from the Royal College of Physicians or of Surgeons in London, or a commission or warrant as physician or surgeon in Her Majesty's Naval or Military Services.

In 1865 the Medical Act for Upper Canada was passed, 29 Victoria, Chapter 34. Prior legislation was repealed, and a Council was established in the name of the General Council of Medical Education and Registration of Upper Canada. This Act is marked by an absolute change of policy. The Medical Board is abolished, and no examining powers are conferred upon the Council, which

consists of representatives from every teaching body and of twelve elected representatives of registered practitioners.

By Section 17 power is conferred on the Council to fix and determine the curriculum to be observed and taught by all the colleges represented, and it is provided by Section 18 that if any college shall not observe or follow such curriculum and shall not properly maintain the desired standard, steps may be taken to disentitle the holders of degrees of such college to registration.

By Section 13 and Schedule "A" therein referred to the right of registration is conferred upon all existing practitioners, all holders of certificates issued by any of the colleges represented on the Council, all holders of degrees from any university in Her Majesty's dominions, or from the Royal College of Physicians and of Surgeons in London, all persons registered under the Imperial Medical Act, and all holders of commissions in Her Majesty's Service.

There is nothing upon the face of this Act of 1865 to show why this change of policy was brought about. I am informed, however, that the reason for it was that the Medical Board that had been in force from 1818, and even before that date, had in fact no real working examinations, but assumed merely to register the degrees of universities, and was therefore not in reality an examining board.

Your Lordship will understand that I am expressly avoiding any comment or argument in any way with regard to the policies of these Acts, because that is a matter now under discussion with the University of Toronto, and may come before you later, when we are both ready to deal with it. I am only for the moment going into the history of the legislation.

This Act of 1865 remained in force for four years, and I do not think I ought to touch upon any question as to how or why it was repealed, but the fact was that it was repealed in 1869.

In 1869 the Acts relating to the practice of medicine and surgery were consolidated by the Ontario Medical Act, 32 Victoria, Chapter 45 (Ontario). By this Act the medical profession of Ontario was incorporated as the College of Physicians and Surgeons of Ontario, and a Council of the College was established, composed of one representative from each college or teaching body and twenty-two members to be elected by the profession, including representatives of the homeopathic and eclectic schools.

By this Act the policy of registration of holders of degrees or diplomas of the teaching bodies was once again abandoned in favor of the system of examining candidates by a Board of Examiners

to be appointed or elected by the Council of the College, from the teaching bodies or colleges, and from the members of the college.

That system has remained in force until the present day, although the Act of 1869 was changed considerably in form, and the present Revised Statute of Ontario, Chap. 161, to which I referred in opening, was in substantially its present form first enacted in 1874 by 37 Victoria, Chapter 30. There have been a number of amendments to the Act from time to time; but its policy does not differ, so far as any matter is concerned which is likely to come before your Lordship, from the Act of 1874.

Now a most superficial examination of this legislation shows that the uniform policy of the Legislature has been to recognize the necessity for constituting the medical profession a corporation, conferring upon the profession certain powers, and imposing certain restrictions—no doubt rights and privileges are conferred upon them, but most severe conditions, having regard to the state of education in the Province in those days, were imposed upon them as regards the education required before the right of practising the art of healing for gain could be exercised within the Province.

Now it seems to me that it is absolutely necessary, at the outset of this inquiry, to consider the policy of the Legislature in passing this legislation. Is it to create and protect a monopoly, a close corporation having certain monopolistic rights and privileges, or is it to protect the public against imposition and incompetence on the part of those professing to exercise the art of healing and seeking to make a livelihood by so doing?

This appears to me, if I may with respect say so, to be the most important duty imposed upon your Lordship by this Commission, because upon the view you take of the policy and of the object of the Act must inevitably depend, as I see it, the view you will take upon the most important perhaps of all the controversies which will arise between the different interests and the parties who may appear before you.

It is unfortunate that one of the judges now sitting upon the Ontario Bench—and the only one, I believe—has taken the view that the Act is solely concerned with the formation of a close corporation with special and monopolistic privileges. That is a view which, on behalf of the medical profession, I absolutely and unqualifiedly repudiate. An individual physician, speaking for himself, and speaking from his own point of view, may very likely use language open to that interpretation, in speaking with reference to some local, unlicensed, unauthorized competitor, when his per-

sonal interests are in question. It is very difficult for a man who is engaged in practising his profession to avoid that point of view, but speaking for the profession at large, speaking officially as representing the College of Physicians and Surgeons, I say that the object of this Act is simply and solely to protect the public against incompetence and fraud, and that all provisions which, in themselves, are directed to upholding the dignity and prestige of a profession which is entitled to recognition, to respect, and to honor, are nevertheless enacted solely in the public interest and should be so construed and regarded.

Now, regarded in this light, the legislation perhaps hardly needs justification, but nevertheless it will not be without use if I point out, along the broadest possible lines, the reason why legislation of this character has been found to be absolutely necessary in all civilized countries. It may be said to be contrary to the trend of modern legislation to confer monopolistic privileges upon any man or body of men, and therefore if such legislation as your Lordship may think fit to recommend has in fact this result it must be justified upon broad grounds of public policy.

It is common knowledge—I need not go into details—it is absolutely common knowledge that the general public has no knowledge whatever of medical science. I have no doubt that probably you feel, as I feel, that we are not qualified even to judge the comparative qualifications of men holding themselves out as qualified to practise the healing art. That being the case, it probably follows from that fact alone, if it be accepted, that the general public, and in particular the uneducated portion of the general public, absolutely require protection by legislation which shall insure that a man who offers to heal—using that word in its widest sense—shall have at least a certain minimum qualification of education and experience.

Now it is also common knowledge—and the same conclusion follows *a fortiori* from the fact—that the more difficult, obscure and incurable any disease or ailment may be, the more the sufferer is likely to turn to absurd remedies, the more likely they are to believe in unscrupulous persons who do not for a moment hesitate to promise everything to them, with the result that they probably thereby not only receive no benefit, but are injured, to say nothing of the useless expenditure of money which properly belongs to those dependent upon them. I do not propose to go into the authorities on the subject in great detail, but I shall refer your Lordship to a number of cases which I think may be of use and interest to you, including some which have been decided in various courts of the

United States, to which I refer both on account of references which have been made before your Lordship to practices in the United States, and of these I have selected judgments the reasons of which will, I think, commend itself to your Lordship's judgment. I shall finish these very general remarks—which could be elaborated indefinitely—by reference to the language of the late Chief Justice Moss in 13 Ontario Law Reports, page 505, when he says, referring to the Ontario Medical Act, "It is a public Act in the fullest sense and not a merely private Act. Its early origin was due to an intelligent, wise and far-sighted apprehension by the regulation of the policy of protecting the public from the dangers and inconveniences arising from unskilful and unqualified persons assuming to protect as physicians and surgeons."

Now, speaking again in the most general way, and disregarding all matters of detail, the protection which the Legislature has in this way assumed to give to the public has been given essentially by one provision only, viz.: the requirement of a certain standard of education on the part of those practising the healing art. The identification of the persons who have attained that standard is provided by registration in what is usually referred to as the register of practitioners entitled to practise within the Province.

It has followed as a matter of course that numerous attempts to evade these restrictions have been made by persons desirous of making money by curing or attempting to cure or alleviate the various ailments from which people suffer. And, speaking generally, it may be said that the cases which have arisen may be divided into two classes. I am speaking, of course, of attempts made to evade the Act, contentions that the Act does not apply to the particular case which has arisen. I am not referring to plain bold violations of the Act, which we need not deal with here.

The first class consists of the so-called drugless system of healing, in which there has been avowed, more or less frankly, the attempt to diagnose the disease of the patient in question, and to prescribe a remedy, the contention being that because no medicine was used there could be no practising of medicine within the prohibition of the legislation. This class includes Christian Scientists, osteopaths, mano-therapists, chiropractors, and various other "systems" of healing which have been mentioned in this inquiry.

The second class—not less important as regards the policy of the Act—consists of those attempting to evade the Act upon the ground that the defendants were engaged in the business of vending patent medicines or drugs without attempting to diagnose the

disease or to prescribe a remedy, the theory being that the patient himself applied for, selected and bought the remedy in question.

This class may be sub-divided as follows:

Cases in which the defendants were locally known and supposed to be possessed of certain skill or experience, the questions raised being principally as to proof of diagnosis and prescription, the attempt to evade the Act being confined to evidence that there was no separate charge for advice, the fee paid being nominally the price of the medicine supplied.

Cases of organized attempts to evade the Act by obtaining from patients written statements of symptoms; and I must say that this class requires special attention in considering exactly what amendments there should be made to the Act. These organized attempts to evade the Act are characterized by written statements of symptoms, procured, for the most part, on printed forms, with the understanding and representation that they are to be forwarded to the advertising physician residing in the United States, from whom advice is to be subsequently received by mail by which the patients will be enabled to apply for the advertised remedies. In some cases elaborate series of questions are supplied on printed forms, which omit any reference to advice in the United States, but include directions which enable the patients themselves to select the remedies according to the answers given.

Then there is another sub-class which consists simply of attempts to inform patients suffering from disease, both by printed literature and by lectures, with the object of enabling persons suffering from various diseases to purchase remedies as advertised and orally recommended. A very well-known example of this class is the organization for the sale of "Viavi" remedies.

There is no objection to the lawful and proper vending of patent medicines, but the Act as it stands has not for a long time been regarded as satisfactory, in that it does not appear to contain sufficiently clear and effective provisions to enable the authorities successfully to deal with professed evasions of the Act. This, I may say, is one subject which came up for discussion when the College of Physicians and Surgeons, some years ago, asked for amendments to the Act, and is, therefore, one of the matters to which I wish to draw your Lordship's attention, and in doing so I do not wish to be regarded as attacking patent medicines, as such; they are lawfully sold by chemists; they are sometimes no doubt prescribed by physicians; sometimes no doubt people are attracted by advertisements in the newspapers to ask for them, and they purchase them. Of course, if a man chooses, relying upon

advertisements in the newspapers, and without taking the advice of a physician, to take the risk of experimenting upon himself, it is not my idea that I should ask your Lordship to consider whether he ought to be permitted to do so or not.

It does not seem to me that anyone desirous of evading the Act has any standing to discuss this matter in the way I put it. That is to say, I am only suggesting that there should be legislation which should put it beyond question that a man cannot deliberately evade the Act in any one of the three ways that I have mentioned. In other words, if only qualified persons, identified as the Legislature may choose to identify them, whether by registration or otherwise, are allowed to practise the art of healing in this Province, then persons ought not to be permitted to get patients into their offices and steer them, so to speak, into the purchase of certain remedies. Speaking purely from recollection of various cases, the idea is that a man is told that if he takes three months' treatment he will be cured. What is the three months' treatment? They are furnished with a certain bottle of medicine. They pay so much for it. They say, "This will last you for such and such a time," say for a month, and in a month they return and pay so much more and get another bottle; and thus men are steered into purchasing the remedy that the man desires to sell. There is no charge for advice, and the conversation is so conducted that the vendor of the medicine and the patient both are able themselves to give evidence to this effect before the magistrate afterwards. The purchaser of the medicine says, "Well, I came in to say what I wanted: he did not diagnose my trouble; he did not prescribe, but I bought the medicine." Of course, the cases to be reached are only cases where there is a deliberate attempt to evade the Act, and not where there is a bona fide going into a chemist's shop and buying medicine. That class is the least in importance of those three sub-heads of the second class which I have mentioned, because they are more easily dealt with. The more difficult and important class consists of doctors so-called advertising themselves as physicians of great skill, claiming to be able to cure all disease, not registered in Ontario, residing in the United States, but advertising here, and by correspondence and by the use of printed forms getting answers from a patient which then enables them to say, "Well, now, you ought to ask for certain remedies"—naming them, perhaps, and saying, "You ought to ask for Numbers 1 and 2," according to the answers given to the questions. Or in other cases, where they send an elaborate form—I have seen some of them—they say, "If you answer questions so and so and so and so in a certain way,

then what you will probably require is our remedy number so and so,'' and then the patient, having studied this form, goes to the place where the remedies are on sale and asks for what is wanted, and both sides take the position that they simply purchased and sold the remedy, whereas the net result of all that is done is a plain evasion of the Act.

Then the third class is even more difficult to deal with. They publish literature and essays upon certain diseases; they advertise lectures, and the whole object is to get patients suffering from these diseases to read the literature and attend the lectures, the idea being that by such a lecture the patient will know perfectly clearly what he ought to do, that the advice of the physician is of no importance, and that if he will only just understand what is the matter with him, and then go and get certain of these remedies he will be cured. In other words, my Lord, a plain attempt is made to appeal to the judgment of the uneducated public for a decision as to the remedy for the disease.

Without desiring to go at length into a question of controversy, I think the essence of it is based upon the answer which one man made to your Lordship. He said: ''Our idea is that the public have a right to any treatment they want by the persons whom they want to give it to them.'' In other words, there is no necessity for an Act at all; let every man stand on his own merits and let every man take his chance.

The Commissioner: That is the fundamental difference?

Mr. Osler: Yes, my Lord; that is to touch it with the point of the needle; that is the very crux of the difficulty.

Now there are a great many cases that have been determined in our courts. I shall only refer your Lordship to those which I think will be useful or interesting for the purpose of this Commission. The first case is one that brings up the business of the chemist—Regina v. Howarth, 24 O. R., page 561. And in considering this matter your Lordship will bear in mind that the English cases practically give no assistance, at least not without a great deal of research and distinction, because in England apothecaries have the right to prescribe. Here there is nothing of that kind.

In this case a druggist undertook to diagnose and prescribe and was found guilty of practising medicine contrary to the provisions of the Act. The evidence was to the effect that the patient did not name his ailment, but described his symptoms and the defendant decided what the ailment was and sold and charged him for medicine.

This case of Regina v. Howarth is the leading case to which these people go who attempt to evade the Act in order to see just how far they can go, and how far they cannot go, in selling medicine.

Compare with that the case of the vendor of patent medicines—R. v. Coulson, 27 O. R., page 59. Here the defendant attempted to evade the Act by pleading that he was simply a vendor of patent medicines. He was, however, convicted of practising medicine on evidence that the patient stated the symptoms and left the vendor to choose the medicine.

In these two cases the door is left wide open for certain of the evasions of the Act I have mentioned.

Then we come to the cases which have been the foundation of the contentions of those who have appeared before your Lordship as the drugless physicians.

Let us consider for a moment the case of R. v. Stewart, 17 O. R., page 4. This is probably the most important, and I may say, I think, the most unfortunate decision of our courts upon the subject. It is the judgment of the Divisional Court, and under the practice the court of last resort in matters of this kind. In this case it was decided, in the most unqualified way, that the Ontario Medical Act was entirely confined to actual surgical operations and attempts to cure or alleviate disease by means of drugs or medicines, and left the door wide open for anybody, no matter how much or how little his education or qualification, to practise the art of healing by every imaginable means, so long as he did not actually prescribe or use drugs. I have every respect for that court, and for every member of it—the members of it are no longer here—but I must point out that the ridiculously inadequate definition of the practice of medicine which is held to be the meaning of those words in the Act was "to prescribe or demonstrate any substance which has, or is supposed to have, a property of curing or mitigating diseases." That, according to this decision, was what the Act was intended to apply to, and for many years this stood as the decision of the courts; and owing to that decision these drugless healers were able to pour into this Province in large numbers. Attempts were made to have the Act amended; these attempts failed, and a Commission was suggested. There was a long delay at first in considering the question as to whether this decision was right or not, and questions were finally submitted to the courts which were answered by the Court of Appeal for Ontario in the case which I have referred to a short time ago, in re Ontario Medical Act, 13 O.L.R., 501.

The majority of the court said that while they were not able to define the practice of medicine in any comprehensive way, they were of the opinion that it was not intended to be confined to cases in which medicines or drugs were used.

Then there are some Canadian cases of general interest.

I have classified them regardless of date, and these may be also usefully referred to.

There is the case of R. v. Valleau, 3 Can. Criminal Cases, 435. In this case it was held that diagnosis, followed by manual manipulation for the purpose of curing disease, was not practising medicine.

In the case of the College of Physicians and Surgeons of Quebec vs. Tucker, 17 Que. S. C., 70, it was held that the sale of a remedy to the person who asks for it for an illness with which he is afflicted, but without diagnosis by the vendor, is not practising medicine. These just by way of illustration, my Lord:

The case of Foster v. Rose, 37 O.L.J., 824, is the decision of the late County Judge Macdougall upon an interesting question, of which I ask your Lordship's consideration, without saying anything finally about it until controversial questions are dealt with.

In this case Judge Macdougall held that the use of the title "Dr.," either written out in full or abbreviated, without supplemental words indicating that the defendant was a registered physician, was not an offence against the Act.

I would ask your Lordship to compare with this case the recent case of Rex v. Harvey, 16 O.W.R., page 433. This is the case of an oculist. Mr. Justice Middleton there held that the Act relates only to the practice of medicine as understood in its primary and popular meaning. I am not at all sure that I agree with that—that is to say, speaking of the Act as it ought to be looked upon; but it is quite clear that the popular and primary meaning of the word "Doctor" is a physician. I think your Lordship will undoubtedly agree with me, that when you refer to a doctor you mean a physician. There are no doubt Doctors of Laws and Doctors of Divinity, but it is undoubtedly true that if a man can advertise himself as a doctor it leads to the use of the expressions "chiropractic doctor," "osteopathic doctor," etc., etc., so that anybody is a doctor who tries to heal anybody, and the result is undoubtedly deception and imposition upon the public.

All I am saying is that there should be some legislation on the subject, and that it should be an offence against the Act to advertise or use advertisements or signs upon which is the word "Doctor" by a man who is not by law authorized to practise something or to

use it in some way. Merely because a man holds himself out as a healer of some kind he should not be entitled to call himself "doctor," if he has no authorized right to do so.

THE COMMISSIONER: Well, what about men who call themselves osteopathic doctors and chiropractic doctors? That defines what they are, and apart from the question whether they have any right to use the word "doctor" or not, it would seem advisable that they should distinguish themselves.

MR. OSLER: Once their right is determined there is no reason why they should not have such proper title as that right may call for.

THE COMMISSIONER: At the present time, when their right is not defined or settled, it is better that they should call themselves by their correct name, and they use the word "doctor."

MR. OSLER: At the present time, if I understand the decision of the Court of Appeal in re Ontario Medical Act rightly, they are, each and every one of them, practising medicine unlawfully and in violation of the Act. What I mean is this, my Lord, that if a man holds himself out as competent to diagnose and to relieve by prescription of any kind, any ailment, he is practising medicine, as I understand the Act as it is now. The question is what provision should be made for the imposing and the maintaining of a standard of education upon those who purport to practise in this way before the public?

I should just like to refer for a moment to the case of R. vs. Couture. This is really a decision of the Province of Quebec. In that case the patient was a child, incompetent to describe his symptoms or to choose medicines, and an attempt to cure by hand passage or a so-called gift for healing was held to be practising medicine, although no drugs were used.

In the case of R. vs. Henderson, 1 L.W.N., page 543, it was held that the practice of osteopathy was not a violation of the Act. That is taking the same view of the Act as in the case of R. vs. Stewart.

Now I feel sure that your Lordship will find it useful to be referred to some of the principal cases that have been decided in the American courts, but it would first perhaps be useful to give your Lordship a few definitions of the phrase "Practice of Medicine."

The definition in Murray's Oxford Dictionary (undoubtedly the authoritative definition) is quoted in the judgment of Mr. Justice MacLaren, in 13 O.L.R.—which is probably the authoritative definition:

"That department of knowledge and practice which is concerned with the cure, alleviation and prevention of disease in human beings and with the restoration and preservation of health. Also in a more restricted sense applied to that branch of its department which is the province of the physician in the modern application of the term. The art of restoring and preserving the health of human beings by the administration of remedial substances and the regulation of diet, habits and conditions of life."

The Medical Act of the State of Michigan defines the practice of medicine to be:

"The actual diagnosing, curing, or relieving in any degree, or professing or attempting to diagnose, treat, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin by attendance or by advice, or by prescribing or furnishing any drug, medicine, appliance, manipulation or method, or by any therapeutic agent whatsoever."

In Webster's New International Dictionary medicine is defined as "The science and art of dealing with the prevention, cure or alleviation of disease."

The Century Dictionary defines it as: "The art of preventing, curing, or alleviating disease, and remedying as far as possible the results of violence and accident. Practical medicine is divided into medicine in a stricter sense, surgery and obstetrics. These rest largely on the sciences of anatomy and physiology, normal and physical, pharmacology and bacteriology, which, having practical relations almost exclusively with medicine, are called the medical sciences, and form distinct parts of that art."

It has been repeatedly held throughout the United States that what are known as drugless methods of healing involve the practice of medicine. I cite a few of the principal cases as follows:

People vs. Phippen, 70 Mich., 6.
Bragg vs. State, 58 L.R.A., 925.
Dent vs. W. Virginia, 129 U.S., 114.
Commonwealth vs. Jewelle, 85 N.E.R., 858 (Mass.).
People vs. Gordon, 62 N.E.R., 858 (Ill.).
State vs. Gravette, 62 N.E.R., 325 (Ill.).
State vs. Marble, 70 L.R.A., 835 (Ohio).
Commonwealth vs. St. Pierre, 175 Mass., 48.
People vs. Alcutt, 102 N.Y. Supp., 678.
Bandel vs. Dept. of Health, 193 N.Y., 133.
State vs. Heath, 125 Ia., 585; 101 N.W., 429.
State vs. Adkins, 124 N.W., 627 (Ia.).
State vs. Wilhite, 132 Ia., 226; 11 A. & E. Ann. Cases, 180.

State vs. Yegge, 19 S.D., 234; 103 N.W.R., 17
Little vs. State, 60 Neb., 749; 51 L.R.A., 717.
Witty vs. State, 90 N.E. 62; 25 L.R.A. N.S., 1297.
Parks vs. State, 159 Ind., 211; 59 L.R.A., 190.
O'Neill vs. State, 115 Tenn., 427; 3 L.R.A. (N.S.), 762.
State vs. Smith, 33 L.R.A. (N.S.) 179 (Mo.).
State vs. Boswell, 40 Neb., 158.
State vs. Edmunds, 101 N.W.R. (Ia.), 431.

Perhaps it would be useful to specially refer to the Bragg case. At page 929 it is said:

"Thus it is made clear, both by definitions and history, that the word 'medicine' has a technical meaning, is a technical art or science, and as a science the practitioners of it are not simply those who prescribe drugs or other medicinal substances as remedial agents, but that it is broad enough to include, and does include, all persons who diagnose disease and prescribe or apply any therapeutic agent for its cure."

And in the Alcutt case, above cited, at page 680 it is said:

"To confine the definition of the words 'practice of medicine' to the mere administration of drugs or the use of surgical instruments would be to eliminate the very corner-stone of successful medical practice, namely, the diagnosis. It would rule out of the profession those great physicians whose work is confined to consultation, the diagnosticians, who leave to others the details of practice.

"Section 146 (page 1543) of the public health laws provides that persons desiring to practise medicine must pass a regent's examination, made up of suitable questions for thorough examination in anatomy, physiology, and hygiene, chemistry, surgery, obstetrics, pathology, and diagnosis and therapeutics, including practice and materia medica. Diagnosis, therefore, would seem to be an integral part of both the study and practice of medicine, so recognized by the law as well as common sense. The correct determination of what the trouble is must be the first step for the cure thereof. It is a well-known fact that the disease popularly known as consumption may, if discovered in time, be arrested, if not entirely eradicated from the system by open-air treatment in the proper climate, and that in such cases the use of drugs has been practically given up. Would the physician in such cases who by his skill discovered the incipient disease, advised the open-air treatment, and refrained from administering drugs, not be practising medicine? It may be difficult by precise definition to draw the line between where nursing ends and the practice of medicine

begins, and the court should not attempt in construing this statute to lay down in any case a hard and fast rule upon the subject, as the courts have never undertaken to mark the limits of the police power of the state, or to have precisely defined what constitutes fraud. What the courts have done is to say that given legislation was or was not within the limits of the police power, or that certain sections were or were not fraudulent."

State vs. Boswell. This case is of interest as being a decision in a Christian Science case. The court there said:

"The object of the statute is to protect the afflicted from the pretensions of the ignorant and avaricious, and its provisions are not limited to those who attempt to follow beaten paths and established usages. The conservatism resulting from the study of standard authors might be somewhat depended upon to minimize the evils attendant upon unlicensed practitioners' attempts to follow regular and approved methods, although, as against even these, the law should be enforced. Still more stringently should its provisions be rendered effective against pretensions based upon ignorance, on the one hand, and credulity on the other."

THE COMMISSIONER: What court was that?

MR. OSLER: That was a Nebraska decision, my Lord.

"In the State vs. Edmunds case (an Ohio decision) it is said at page 433:

"Undoubtedly the State has the right to determine what acts shall constitute the practice of the healing art, and it may impose conditions on the exercise of that privilege. Having defined the terms of its use, Court should not be too subtle in the use of refined distinctions to save the people from quacks and charlatans, the State has plenary power to prohibit or supervise the exercise of the healing art."

In the Phippen case, which is a Michigan decision, the court said:

"There is no good reason why restraint should not be placed upon the practice of medicine as well as the law. The public are more directly interested in this than in the practice of the law; and persons who engage in this profession require a special education to qualify them to practise. A great majority of the public know little of the anatomy of the human system, or of the nature of the ills that human flesh is heir to; and there is no profession, no occupation or calling, where people may more easily or readily be imposed upon by charlatans. It is an almost every-day experience that people afflicted with disease will purchase and swallow all sorts of nostrums because some quack has recommended it."

The most recent case upon the subject appears to be that of Lock vs. Ionia, in which a judgment of Steere, J., is fully reported in the Detroit *Legal News* of April 10th, 1915, at page 94.

In Hawker vs. N.Y., 107 U. S. Supreme Court Reports, there will be found on page 189 the judgment of Mr. Justice Brewer, and I may say that in selecting these cases—and I consider that all of them are entitled to respect, apart from the very meaning of the language itself—I have to a very large extent been governed by the fact that respect is paid to them by Mr. Justice Brewer, whom we all know of. In the case of Hawker vs. N.Y., which I have just referred to, Mr. Justice Brewer said:

"No precise limits have been placed upon the police power of a State, and yet it is clear that legislation which simply defines the qualifications of one who attempts to practise medicine is a proper exercise of that power. Care for the public health is something confessedly belonging to the domain of that power. The physician is one whose relations to life and health are of the most intimate character. It is fitting not merely that he should possess a knowledge of diseases and their remedies, but also that he should be one who may safely be trusted to apply those remedies."

THE COMMISSIONER: Do you remember the date of that decision, Mr. Osler?

MR. OSLER: I do not remember that, my Lord. I can easily ascertain that.

THE COMMISSIONER: You need not bother.

MR. OSLER: In Dent vs. West Virginia—which is also a case in the United States Supreme Court Reports—at page 114 it is said (by Mr. Justice Field):

"Few professions require more careful preparation by one who seeks to enter it than medicine. It has to deal with those subtle and mysterious influences upon which life and health depend, and requires a knowledge, not only of the properties of vegetable and mineral substances, but of the human body in all its complicated forms and their relations to each other, as well as their influence on the mind. The physician must be able to detect readily the presence of disease, and prescribe appropriate remedies for its removal. Everyone may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill he possesses. Reliance must be placed on the assurance given by his license, issued by an authority competent to judge in that respect that he possesses the requisite qualifications."

MR. OSLER: It appears to me that in those cases, my Lord, irrespective of their source, are weighty words for your Lordship's

consideration, and that the liberty of the subject, being undoubtedly valuable and entitled to respect in itself, must give way to the absolute necessity for the protection of the public that the law requires the assurance of proper qualifications for medical practice.

There are, as I said before, my Lord, any number of other cases that may be referred to, but many of them are referred to in the cases I have mentioned.

That, I think, covers the general ground of the position taken by the college.

I ought not to close, however, without saying—speaking generally, that the College of Physicians and Surgeons agree absolutely with the position stated to your Lordship by the University of Toronto, to the general effect that a recognized medical university degree—and when I say "recognized" I mean a degree of the university that adopts the conclusions of modern science—is, and should be, the minimum standard to be required of anybody who exercises the art of healing. I am not at this moment entering into any controversy with regard to any of these other systems. I am not interested in entering into an analysis or consideration of their merits or demerits; they may be all wrong; they may be partly right or partly wrong; or the whole modern system of the universities may be wrong, and these men may be right, and some day the universities may have to go to them and say, "Verily, ye are the men, and wisdom shall die with you," but in the meantime we say that we must take our stand on the accumulated wisdom and experience of all recognized scientific men, and that if anyone chooses to specialize, if he wishes to adopt something different, it is absolutely in the public interest that he should do it knowingly and not in ignorance, after he has been educated, but not by a rejection of what we understand by the word "education."

Subject to the discussion of controversial matters, that is all I have to say, my Lord.

Dominion Medical Monthly

And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH

Has Medical Inspection of Schools in Toronto, under the Board of Education, had a fall? It has not been able to commence to prevent one of the common, ordinary, every-day, communicable diseases, measles—and to prevent communicable diseases amongst school children was one of its strongest suits. The detection of defective teeth, adenoids, enlarged tonsils, etc., is only of secondary importance to the detection of the communicable diseases.

Whilst the death rate has not been great, it has yet been considerable—and measles has possibilities sometimes in a very large death rate. Recently in the County of Durham, England, there has been an epidemic of measles of very wide extent with over 1,000 deaths. Had the present epidemic been of either diphtheria or scarlet fever, or smallpox, the people would have been up in arms. At the present time they are not sufficiently seized of the dangers of measles; but when it is properly understood that measles carries with it hidden dangers, laughing and scoffing at that hitherto neglected disease on the part of everybody will be turned to concern and anxiety.

Times have changed. A wave of economy is creeping over the community. When it becomes a question of the pocket and the

tax rate people vote more intelligently. Enthusiasm and patriotism are apt to carry the people away, but the tax rate has a sobering influence. When the people become convinced there is wastage in a dual system of public health for children, and that a tangible saving may be accomplished through amalgamation of health departments, then we are bound to get better health administration, in fact, as it has been pertinently stated, the people can have all the health they are willing to pay for. But they do not want to be paying for it twice over.

It is interesting to sit by and watch the evolution of things, public health for instance. First, the Ontario Legislature enacts legislation giving to medical officers of health wide powers; it ensures to the medical officer tenure of office in the administration of his office; for no medical officer can now be removed at the whim of any municipality. Sanction for dismissal must be secured from the chief medical officer of health of the province. This makes for bold, honest, independent and fearless administration of public health. Second, in order to prevent the useless wastage of human life, to say little of the incidence of communicable diseases, the Provincial Board of Health is now supplying all sera free, and calls for early and prompt administration of such sera where indicated. In this direction the public eye is more than ever turned toward the local board of health. Third, in Toronto, the people have voted for the annual election of school trustees. Thus, a new school board might any year be elected which knew nothing of medical inspection. A system of public health of vital importance is then placed under a body of men who could very readily hamper the work of a chief inspector, or chief medical officer. Were it under the municipal officer of public health, they would have no control over it at all. The final court lies with the Provincial Officer of Health. Fourth, the representatives of the people, having an interest in conserving the resources of the people and the revenue in the interests of the taxpayer, have become seized of the overlapping of public health work, and the consequent economic loss which results everywhere from overlapping. Economy and retrenchment are abroad in the land.

Having enacted legislation perfecting public health administration in Ontario, the Ontario Legislature cannot very well refuse to sanction legislation which will bring the medical inspection of schools in Toronto under the administration of the medical officer of health. In fact, legislation may be looked for which will apply to this matter for every municipality of the Province. Indeed, a department of medical inspection of all schools, public

and high, under the Chief Officer of Health of the Province, seems necessary to round out the good public health administration which has been created under the able and progressive hand of the Honourable, the Provincial Secretary.

In the larger cities, when medical inspection becomes a part of the duties of the medical officer of health, whole-time medical inspectors should be employed; and these should preferably have at least ten years' experience in actual practice before taking up the work of medical inspection.

THE CONTROL OF THE OCCUPATIONAL DISEASES

In an editorial in the *Boston Medical and Surgical Journal* of June 10, 1915, attention is called to the fact that it is within the functions of the Board of Health to establish a Bureau of Hygiene, and that the functions of such a Bureau should be the establishment of a central occupational disease clinic for research investigation on the lines of Professor Devoto's clinic for industrial diseases at Milan. Such a clinic should be separate from the tuberculosis clinics, although acting in harmony with them and in co-operation with the University and Hospital clinics throughout the city; it should be the clearing house for all specific occupational diseases and industrial poisonings, should make a study of the prophylaxis of the various industrial affections met with, and should be supplied with ample means for its work of investigation and research.

There should be established an industrial hygiene educational division which should endeavor by all possible means to spread the knowledge of the causes of industrial poisoning, the preventive measures to be taken in various industries, and right modes of work and living for the industrial population. It should also, in co-operation with the various manufacturers' associations and other existing bodies, as well as with the Department of Education, endeavor to conduct a general campaign of education among employers and workers as to the prevention of occupational diseases and the preservation of the health of the workers.—*Therapeutic Gazette.*

News Items

Word has been received by Colonel H. S. Birkett in Montreal, of the death on active service in France, of Dr. Harry B. Yates, who was with McGill University Base Hospital.

Dr. Geo. G. Nasmith, Toronto, has returned to France for active service. He carries with him C.M.G. Dr. Nasmith was married to Mrs. Scott-Raff before returning to the front.

Dr. Hubert Brown, who has been practising at Cooksville, has been recommended by Lieut.-Col. Marlow for the position of Medical Officer of the 169th Battalion. Dr. Brown served in the South African war.

Dr. Edward Ryan, Superintendent of the Rockwood Hospital for the Insane, Kingston, Ont., is appointed psychologist to the Ontario Hospital at Orpington, Kent County, England, which is about ready for occupation.

Major E. K. Richardson, 2nd Brigade, C.F.A., has received instructions for the raising of another artillery battery in Toronto. A large number of students, as well as numerous horsemen, have been waiting for the call for recruits for this unit.

Surgeon-General William Crawford Gorgas, of the United States army, addressed the Canadian Club, Toronto, January 17th, on "Sanitation in Panama." He told the wonderful story of the successful conquest of yellow fever at Havana and the Panama.

Dr. Scott Huntingdon, a prominent physician of Havana, and an American citizen, has offered his services to the Minister of Militia. Dr. Huntingdon has given up his practice in order to join the Canadian army, and has been given a commission in the Medical Corps.

The Board of Control, Toronto, has decided to seek legislation at Queen's Park sanctioning the amalgamation of the medical inspection departments of the city and Board of Education. It is declared that such an amalgamation will mean a saving of $40,000 per annum to the citizens.

Representatives of the four Western Universities and Brandon College, in conference at Edmonton, Alberta, January 13th, unanimously decided to offer to the Militia Department a battalion to be raised from those institutions. A sub-committee was appointed to draft the formal offer and complete the details for organizaton.

Orders for the immediate mobilization at Toronto of the medical officers and nurses for the staff of the Ontario Hospital have been received by Lieut.-Colonel F. W. Marlow, A.D.M.S.

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Orderly rooms will be established at the Parliament Buildings. Thirty-two doctors and eighty-one nursing sisters from all parts of the Province will form the staff of the unit.

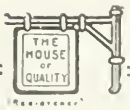
The following Canadian doctors have been created Companions of the Order of St. Michael and St. George: Murray Maclaren, of St. John, N.B., Colonel, Commanding Officer of a Canadian General Hospital; George Gallie Smith, Lieut.-Col., Canadian Army Medical Corps; Arthur Edward Ross, M.P.P., of Kingston, Ont., Lieut.-Colonel in the Canadian Army Medical Corps, commanding the 1st Field Ambulance.

Doctor Ella Scarlett Synge, who practised for ten years in several parts of western Canada, has reached London. She was medical officer in the Serbian hospital at Battochina when the enemy swept into the place, remaining there after most of the other nurses had fled. Her request to go forward into Germany was granted. She there visited several internment camps and was detained two weeks in Berlin. Doctor Synge says she will return to Canada when peace is declared.

Word has been received by Dr. C. J. Copp, Toronto, that he has been created a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England. Dr. Copp has been identified with the ambulance departments of the Order for a number of years and is Honorary Secretary-Treasurer of the Ontario Council, St. John Ambulance Association, and Assistant Commissioner of the St. John Ambulance Brigade. The Order of St. John is a part of the Red Cross organization of the British Empire.

Dr. J. S. McCallum, Smith's Falls, is the proud father of three stalwart sons, all of whom are somewhere in France doing their bit in the great war of freedom. All of them are Canadian University graduates. Private F. Harold, of the Divisional Cycle Corps, was a theological student, and graduated in Arts from the University of Toronto. Lieut. John S. joined the Royal Army Medical Corps, and is attached to the 10th Gloucester Regiment as surgeon. He graduated at McGill in Arts and Medicine. Lieut. George H., civil engineer, who is attached to A Company Divisional Engineers, graduated from McGill with the degree of B.Sc.

Dr. Z. Rheaume, chief surgeon at the Hotel Dieu, will accompany No. 6 General Hospital, Laval, being organized by Lieut.-Col. Beauchamp. He will act as chief surgeon, with the rank of lieutenant-colonel. About thirty nurses of the hospital, who have already received military training at Quebec, are going overseas soon, as it is felt they can be of great use at the base hospitals in



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the interval before the completion of the General Hospital. The change of the unit from a stationary hospital to a general hospital has meant the enrolment of a large number of additional medical men, nurses and others; and it may be some time before the organization is completed.

Ontario Military Hospital Staff, Orpington, England.—The following is the official list of appointments: Doctors—Dr. G. W. Aitken, London; Dr. D. A. Campbell, North Bay; Dr. M. M. Crawford, Toronto; Dr. Douglas Curry, St. Catharines; Dr. W. J. Clark, Toronto; Dr. T. A. Carson, Orangeville; Dr. G. Fripp, Sault Ste. Marie; Dr. L. C. Fallis, Toronto; Dr. F. V. Graham, Toronto; Dr. A. B. Greenwood, Sutton West; Dr. Arthur Gunn, Durham; Dr. D. A. Hilker, Hamilton; Dr. G. L. Jepson, London; Dr. Ross Alexander Jamieson, Toronto; Dr. J. E. Kane, Kingston; Dr. D. L. Kennedy, Kingston; Dr. Smirlie Lawson, Toronto; Dr. McCartney, Fort William; Dr. H. McIntyre, Harriston; Dr. H. W. Martin, Hamilton; Dr. McArthur Thorpe, Norwich, England; Dr. Alex. McKay, Toronto; Dr. A. W. Nixon, Georgetown; Dr. E. F. Richardson, Port Hope (now of Aurora); Dr. Berkeley Stark, Toronto; Dr. Harley Smith, Toronto; Dr. R. A. Thomas, Toronto; Dr. R. J. Wilson, Toronto.

A census of doctors who are ready to enlist in the Canadian Army Medical Corps or the R. A. M. C. is to be taken by Lieut.-Col. F. W. Marlow, A.D.M.S., at the request of the military authorities at Ottawa. The list is to include all qualified practitioners in the 2nd Divisional Area who are available for overseas service, either in the Canadian or Imperial Corps. Medical men willing to enlist should send in full name and address to Lieut.-Col. F. W. Marlow, A.D.M.S., Headquarters, Exhibition Camp, Toronto. They should state the Province in which they were registered, the university from which they graduated, physical fitness, whether for C. A. M. C. or R. A. M. C., and also what notice they would require if called upon. It is expected that there will be a large demand for Canadian doctors within the next few months with the raising of the new battalions and the call from overseas. Many American medical men have offered their services, but these have been rejected, as it is necessary to hold a Canadian certificate in order to be a medical officer in the Canadian forces. This regulation has debarred many doctors who are eager to enlist with the Canadian overseas forces, but there is a possibility of the regulation being modified should the supply of Canadian doctors not be sufficient. The Second Divisional Area includes the following counties: York, Wentworth, Peel, Lincoln, Welland, Halton, Grey, Simcoe, Ontario, Victoria, Dufferin, Northumberland, Durham, Nipissing, Muskoka.

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Publisher's Department

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Calydor Sanatorium, Muskoka.—Dr. C. D. Parfitt, of Gravenhurst, Ontario, who for fourteen years has been engaged in tuberculosis work, is about to have much improved facilities for taking care of patients. See announcement on another page.

A number of interested friends have recognized the need of first-class accommodation for patients and of enlarging his opportunities for work and have combined to form a company to build a private sanatorium in order to satisfy these needs. The building is now nearing completion and will be ready to receive patients in the early spring.

Calydor Sanatorium, pleasantly located on Lake Muskoka, promises to be all that could be desired for the purpose, as convenience and comfort have been most carefully studied. Present accommodation is for twenty-one patients. The rooms are large and well lighted. Each room has a private protected balcony. Beds may be wheeled from room to balcony through French doors, so that in winter the patient may go to bed in a warm room and be wheeled out of doors for the night by the orderly. Several pairs of rooms, with private bathroom, may be thrown *en suite*, thus facilitating the association of patient with relatives. An elevator will increase the liberty of patients who can undergo but slight exertion. The building will have abundant heat for the coldest weather, and this fact, along with the conveniently arranged rooms and verandahs, will make it a pleasant place for taking the "cure" in winter. The kitchen and diet room are equipped with all conveniences for providing a good table, getting hot meals to bed-patients, and for sterilizing dishes. A modern signal system will ensure prompt attendance of nurses.

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Original Articles

ROSACEA PUSTULOSA

By George Elliott, M.D., Toronto.

By most writers on dermatological affections rosacea pustulosa is described as the second clinical manifestation of acne rosacea, the three being in the order of their appearance, rosacea erythematosus, rosacea pustulosa, and rosacea hyperthropica, or rhinophyma. Acne rosacea is a term rapidly falling into disuse, rosacea, as applied to the three stages in the process and of which this has been said to be the climax, superceding it. As rosacea means rosy, and erythematosus redness of the skin, there would seem to be a doubling of terms in the first clinical condition. Would it not be better to describe the first stage as rosacea simplex, the second as rosacea pustulosa, and the third as rosacea hyperthropica? The second most often comes under the attention of the physician for treatment.

It is manifestly altogether wrong and unsuitable to define any of these associated affections, outside of perhaps in some cases the third, as a chronic inflammation of the face and nose, generally due to the free use of alcoholic stimulants, or to nickname the affections as "brandy-nose" or "brandy-face." Such is at best only an occasional etiological factor, and should be reserved for those cases where alcoholic addiction actually contributes to the condition.

By far the greater majority of the cases of this often unsightly, disfiguring, common, and somewhat disgusting-looking affection, are of innocent origin. Indeed, the first, rosacea simplex, rarely comes under observation until the pustules—they are perhaps always larger than common acne—are implanted upon the rosaceous or erythematous base. In some cases, however, patients affirm the appearance of pustules antedated the appearance of the rosacea. What can, however, generally be elicited, by close questioning, is preliminary, intermittent flushing of some part of the

classical rosaceous area. This is the middle third of the face, so divided by two perpendicular lines. Thus, as a matter of fact, rosacea pustulosa selects as its particular stamping ground the middle of the forehead between the eyebrows, the nose, the adjacent parts of the cheeks, in the naso-labial folds, the upper lip, and the chin. Once begun, or established in either of these regions, it may spread outwards and come to involve either, or both, lateral thirds of the face, as was seen in one of the selected cases reported below. This middle area of selection is well outlined by Stelwagon who describes it as "a long oval with the chin and middle forehead as the end boundaries and the malar bones as the side boundaries—beyond which rosacea seldom extends to any great degree."

Generally rosacea pustulosa is more often seen in women from twenty to twenty-five years onwards; and derangements of the alimentary canal, particularly constipation, are most likely to be present in all cases. On this account George H. Fox considers "dyspepsia blossoms" more appropriate as a nickname. In women, again, some functional or organic uterine disorder, such as menorrhagia, dysmenorrhea, or irregular menstruation, may be the exciting cause of rosacea. In others heart and circulatory disorders have been considered at fault; nervous, as frequent emotional attacks. Whatever the constitutional derangement present —and there is always sure to be one or more—it should be diligently searched for, as it is essential to ascertain this in order to success in treatment. There seems to be no difference of opinion amongst dermatologists but that constitutional treatment should go hand in hand with local applications. Hurry, over-exertion, hanging around grate fires, stoves, radiators, as well as coming in contact with steam and hot vapours as in cooking, are all contributing factors in the production of the affection.

In the rosacea pustulosa stage of the affection, rosacea as a whole, marked capillary dilatation and enlargement as well as hyperthropic tissue growth is not generally seen; but there are hyperemia, sometimes deep and of a venous hue, papules, nodules, and very pronounced pustules, generally larger than the lesions of acne vulgaris. In some cases there have been observed an oily seborrhea around the nose, but this is not generally the rule.

Typical cases of rosacea pustulosa present very few difficulties in diagnosis when the erythema, pustules, and oval-of-selection area are borne in mind. Some cases from their position, extending outwards from the sides of the nose to the malar eminences, have been mistaken for the "bat's wing" configuration of lupus erythematosus; whilst others, in the naso-labial folds, may simulate syphilis

and seborrheic dermatitis. The elevated border of lupus erythematosus with the scaling and the projections from the under surfaces of the scales into the openings of the seborrheic glands, distinguish it from rosacea pustulosa; whilst the syphiloderm is circinate or segmentally grouped. If enlarged blood vessels are present syphilis may be excluded. Rosacea has a localized and not a general or diffused redness. Erythematous eczema sometimes attacks the region of the eyes, and care may sometimes be necessary in differentiating it from rosacea simplex. Lupus vulgaris begins earlier in life.

Although rosacea pustulosa is often an affection which has extended over considerable periods of time, two, five and even more years, a complete cure may quite often be safely promised in the great majority of the cases, at best in a few months' devoted treatment, sometimes in a few weeks.

From a series of ten cases treated—eight females and two males—in the past few months, four are selected as representative ones.

Case 1.—Miss E. W., twenty-five years of age, single. She had been troubled with constipation for some years; also had pain about one hour after eating; some hyperacidity. For two years she has been affected with erythematous patches covered with nodules and pustules on both cheeks, extending from the middle of the nose to the malar prominences. The patches were rather oval in outline, stood out distinct from the surrounding skin, and were two and one-half inches long by one and one-half inches broad. At one time there was a rosaceous area bridging the nose and so connecting the two lesions. This so simulated the "bat's-wing" manifestation of lupus erythematosus that one of her physicians pronounced the condition such, and cauterized, but without any appreciable curative effect. The lesion on the right side of the face was somewhat worse than that on the left, but on the left side below the patch, and separated by about one-half inch of sound skin, was an isolated pustule. The patient affirmed some pustules and "pimples," as she called the papules, had appeared before there was any rosacea or erythema. She appreciated the fact that sitting before a fire or at a stove—she came from the country—tended to the aggravation of the condition and a fresh crop of pustules. There had also been a few common acne upon the shoulders, but when they had been squeezed out, a black dot was on the tip of the plug. Boils and abscesses on the neck had appeared at different intervals during the past few years, but none was present at examination. They had always ruptured of their

own accord. After two weeks' treatment there was very decided improvement, the bluish tint having faded considerably; some of the pustules had already disappeared. By the end of three months all the pustules were gone, and the erythema had disappeared likewise.

Case 2.—Mrs. R., thirty-six years of age, married, related a history of having had at various times, tonsillitis, neuralgia, acute Bright's disease after confinement. Five years previous to presenting for examination and treatment, she began to be troubled with dyspepsia, pain two or three hours after eating, gaseous eructations, and sour-brash. The pulse was normal, tongue clean and moist, appetite then good; heart normal. About the time the indigestion commenced five years ago, a small "boil" appeared at the right side of the nose near the commencement of the naso-labial fold. After that she never was free from large pimples in that region where five or six were always aggregated. It was so offensive to herself that she remained indoors a great deal rather than appear upon the street with such a disfiguring condition. There was one fairly large pustule between the eyebrows implanted upon a rosacea as was the patch at the side of the nose. They had been on the chin but had disappeared spontaneously. The ala nasi of the right side presented a deep flush, whilst the organ appeared broadened and slightly swollen at the tip. Otherwise there was no evidence of ill-health, and no history of alcoholism. Constipation had also been troublesome for a similar period of five years. This case cleared up rapidly upon treatment and was quite restored to the normal in four weeks' time.

Case 3.—Miss O. F., twenty years of age, single. She stated she had typhoid fever at four years; never had any indigestion; chicken-pox, the only disease of childhood. Had been troubled with constipation for two or three years; menstruation slightly irregular, as it sometimes lasted seven days, and the discharge very often scanty. She presented the appearance of good health. For four or five years she has had a most unsightly chin. The affection covered the whole skin surface between the vermilion border of the lower lip and the mental process, slanting downwards and outwards from the corners of the mouth. What skin could be seen was deeply stained, and there was not a space where the end of a match could be placed without touching a large yellow pustule or nodule. There was also slight erythema on the tip of the nose. The condition cleared up surprisingly fast under treatment, and by the end of a month there was only one pustule in the middle of the chin, but still a deep rosaceous background.

On the first of July she competed in some foot races, and came back in a week's time almost as bad as ever. Persistent treatment was followed for three months when there was no return of the pustules, and applications of ichthyol every fourth night reduced the erythema.

Case 4.—Mr. F. H., forty-seven years of age, married, business man, said his habits were good; only very occasionally partaking of alcoholic stimulants. He gave a history of an attack of herpes zoster some years ago, and some erythematous rash upon the chest which he could not very well describe. He had never had any constitutional diseases of any kind and had quite recently undergone a thorough physical examination at the hands of his family physician who had referred the case. He pronounced him sound and well. The condition started seven or eight months ago; and as he remarked himself the erythema and pustules or pimples had always been on the centre of his face. There were several large ones on the middle of the forehead, between the eyebrows, a large one on the bridge of the nose an inch from the tip, and on the cheeks alongside the nose. There had never been any on the chin, which was bearded. The rosacea simplex was quite pronounced on the middle of the face. There had been some slight constipation for a year or two, and some little insomnia for which the patient had been in the habit of taking seven and one half grains of veronal twice a week. Schamberg says of veronal dermatitis: "I have observed eruptions closely resembling the rashes of scarlet fever and measles. The scarlatinoid rash was accompanied by fever." Whether veronal had anything to do with producing the condition in this patient it would scarcely be possible to assert positively. However, the patient promised to discontinue its use as he thought he could get along very well without it. He did stop it, underwent treatment as outlined below, and returned in two weeks' time without a pustule, and only a slight erythema present in spots for which he is still continuing treatment at the present time.

There are two essentials in the management of the treatment of a case of rosacea pustulosa. The first is the cessation of habits of living which have brought about the condition. The second is the combination of intelligent internal with external treatment. These two essentials must ever be kept in mind to assure success. There is positively very little use in administering drugs and rubbing in ointments or applying lotions, or even treating with the X-rays, if the patient does not guard against all excesses and environments which keep alive the underlying

conditions and so supplying the pabulum for the continuance of the affection.

Patients are themselves sensible of the fact that heat and excessive exercise, such as running, and even "speeding-up" in business (as was noted by himself in the case of the business man above referred to) often results in an exacerbation of the affection. The condition may be expected to become worse when the blood pressure is raised. Over-eating, the incautious use of alcoholic stimulants, even moderate excess in condiments, ginger ale, etc., pastry, pickles, spices; yes, even sausages, pork, and other ingesta, which call for prolonged periods of digestive action, all contribute their quota towards retarding cure. Excitement and anger should be guarded against.

As regards the internal treatment, that depends upon the constitutional condition present. In the cases here reported, and in others, the routine administration of phosphate of soda with nux vomica three times a day before meals has seemed to be indicated; whilst tablets of a tenth of a grain calcii sulphidum between meals have also been administered, with a semi-weekly dose of mag. sulph. Ringer was the first to suggest sulphide of calcium in pustular conditions. Many writers on pustular affections state they have tried this drug but with no success. Apart from their rather authoritative opinions, it has never been omitted as a distinct part of the treatment adopted.

Externally an ointment of equal parts of the unguentum sulphuris iodidi and vaseline have been ordered to be rubbed in thoroughly every night. This leaves no stain, something appreciable and desirable from the patient's viewpoint.

The pursuit of this treatment in two weeks' time will invariably show pronounced improvement, satisfying to patient and physician alike. A month to three months has been sufficient to cure the most chronic and apparently obstinate case which has come under observation. Sometimes, for a time after the disappearance of all the pustules, the erythema remains, and there has been observed in some cases a slight desquamation of the skin, or the corneum. This may successfully be removed with nightly applications of subnitrate of bismuth and castor oil; or ichthyol in petrolatum, every third or fourth night, as sometimes continued applications of ichthyol have produced pustules.

219 Spadina Road.
26 Gerrard Street E.

A CASE OF EMPYEMA FOLLOWING AN ACUTE APPENDICITIS WITH OPERATION

By C. H. Hair, M.D., Toronto.

Mr. H. H., aged 20 years, married, clerk, Canadian, well-nourished, presented himself for examination and treatment with a discharging sinus on the right side of the thorax.

The family history—father and mother, alive and well; four brothers and two sisters, alive and well.

The patient's habits are good; no history of venereal disease; no previous illnesses.

He was operated on in July, 1914, at Winnipeg, two days after the onset of the acute appendiceal attack. Two weeks after the operation, patient was suddenly taken with shortness of breath. Later a needle was inserted into the right thorax which showed the presence of pus; and a resection of one rib was done, followed with tube drainage. The discharge has been continuous since, changing in color but often thick, containing blood and usually with a very fetid odor.

On May 6th, 1915, patient was again operated on, an incision being made over fifth, sixth, and seventh ribs, and about two and one half inches of the fifth and sixth ribs removed. The cavity was opened up, cleaned, and drainage tube inserted. It was sewn in with silkworm gut, and muscles closed. The patient remained in the hospital until July 24th, during which time drainage was profuse, and the Sprangle pump was used to increase the flow. One attempt was made to wash out the sinus, using a solution of five per cent. sodium chloride, and ½ per cent. sodium citrate, but the patient became short of breath, with the appearance of the solution in the mouth and throat. He then attended the out-door surgical department, and has continued to do so since, with an almost constant discharge. Since attending, the most marked symptoms have been a feeling of pressure and pain in the shoulder and a very troublesome cough when the discharge lessens, but which disappears when the discharge becomes more abundant.

On October 28th a fluoroscopic examination showed the cavity to extend up to the second rib, right diaphragm fixed and the heart pulled slightly to the right. There is also a very marked thickening and tenderness over the lower right thoracic border at

the junction of the ribs with the sternum and, on pressure on this area, the flow of discharge can be increased.

Bacteriological Report.—Discharge, direct smear, Gram negative; bacilli, Gram, and cocci. Some diplococci, polymorph. nuc's.; lymphocytes; absence of t. b. Endos, slant—bac. mucosis, capsulatus; double sugar—bac. mucosis capsulatus. Sputum, Gram stain-cocci; absence of t. b.

There is very little literature on this particular form of empyema. Jacobson, Vol. II, page 417, in a short paragraph says: There is little room to doubt that infections of the lungs and pleura are mostly embolic and that the liability to them increases with the duration of the appendicitis. It is a fact that these complications, and especially sub-diaphragmatic abscess, are far less common in patients treated with early operation. It stands to reason that portal pyaemia is much more liable to occur in delay.

Osler says you may get extension through the retro-colic veins or new-formed collateral branches of the systemic circulation that may occasion abscess of the lung.

Howard Kelly, page 228, says pleural empyema may be caused by a suppurating appendix, and advises in right-sided affections the examination of the right iliac fossa.

A CASE OF SYPHILITIC PERIOSTITIS

By Herbert W. Baker, M.B., Toronto.

I desire to present this case for your consideration to-night in the hope, that it may arouse discussion as to the relationship between new bone formation and our various chronic inflammations.

This history is as follows:

William H., male, 14 years old. Complaining of sores on both shins. He has had lumps on his shins as long as he can remember, on the surface of which ulcers developed in December, 1914, following injury. These formed first as lumps which were sore, and after poulticing for about one month, they broke. He has never suffered any inconvenience or pain as a result of this, except the constant necessity of a dressing, as they have never healed up.

Past history:

Parents state that he was so fat as a baby that he was unable to walk until over two years of age, and that his legs became bowed as a result of his weight. He was nursed by his mother for thirteen months. He has had the usual children's diseases with no unusual complications, his only severe illness being an attack of pneumonia and pleurisy, aged 7, from which he made a good recovery.

Family history:

Father, age 45, has had asthma for twenty years, with a bad cough. Wassermann, negative.

Mother, age 37. A. and W. Wassermann, positive.

Married for years.

Seven brothers and sisters living, ranging in age from thirteen years to eleven months, all healthy and show no evidence of disease.

One child, the first, died at 5 months, of dropsy.

Miscarriages, 2. One 13 years ago at 3 mos. One 10 years ago at 2 mos.

Present condition:

(*a*) Small underdeveloped, fairly well nourished child, who at present is suffering from impetigo. Has had trouble with his left eye for over two years, now having excoriated lids, the result of removal of his lacrymal sac, which had failed to clear up after an acute infection. Dr. Newbold Jones assures us that this condition has no syphilitic basis. Eyes react to light and accommodation. Tongue and fauces normal. Teeth normal with the exception that he has one upper central incisor missing. Deep reflexes normal. No other evidence of disease excepting quite well marked frontal bosses. (*b*) Locally both tibiae are markedly bowed forward with evidence of new bone formation, which is convex, and has no sharply circumscribed margin. Over the prominent part of these bones are areas of ulceration. On the left there is a markedly reddened area 3 x 2 on the surface of which there are two other areas irregular in outline denuded of epithelium, having the characteristics of specific ulcers. On the right is a smaller red area with an ulcer on its surface. The skin overlying the tibiae is not adherent. There is absolutely no pain in connection with this condition. (*c*) Wassermann reaction strongly positive. X-ray shows marked sclerosis of the compact bone on the convex surface of the tibiae in the region of the aforementioned bowing. The sclerosis shades off gradually into the no

mal compact bone, having no circumscribed border. The surface of the sclerosis is convex, rough and irregular.

Diagnosis:

From the above data the diagnosis of syphilitic periostitis, plus a certain amount of pyogenic periostitis, due to secondary infection through the ulcerated areas on the skin was made.

Different diagnosis:

(1) Rickets—One would think of this condition which, however, we consider can be readily excluded by the fact that there is absolutely no evidence of the slightest new bone formation on the concave side of the bone, which is so characteristic of the buttress formation seen in healed rickets.

(2) Traumatic periostitis secondarily infected. If this were the case, one would expect to find a sharp limitation of the new bone formation and not the definite, dense sclerosis of the compact bone, extending beyond the site of injury, and having no sharp margin as we find in this patient.

As regards our diagnosis of a syphilitic periostitis we have, first of all the boy's mother giving a positive Wassermann, which presents the opportunity of him being the subject of congenital syphilis, which is borne out by the fact that he himself gives a positive Wassermann. Also the characteristics above mentioned fit in very well with our idea of a syphilitic periostitis.

Treatment:

This boy has been given large doses of potassium iodide and mercury. No mercury has been given by inunction for the reason that we have no assurance that the treatment would be carried out. For the ulcerated areas they are being dressed daily with a 1-4000 bichloride solution. Unfortunately this treatment has not proven as satisfactory as we would wish and we would appreciate any suggestions regarding additional treatment.

Prognosis:

As regards the prognosis we see no reason why this should ever interfere with life nor materially with the function of his legs. Concerning the sclerosis which has already taken place we consider it to be too long standing and so obstinate to treatment to be ever materially lessened, and the fact that he is a male, and that it is a subcutaneous bone which is affected, lying under a skin which presents pathological conditions, it is quite probable that he will always have more or less trouble with cutaneous ulceration due to constant slight traumatisms.

Pathology:

The pathology of this condition is apparently that it is not the result of subperiosteal gummata such as is frequently seen on the sternum clavicle or ribs but that it commences as a definite periostitis because in these subperiosteal gummata one usually finds a worm eaten appearance of the bone and not the regular osteo-sclerosis which we find here. This condition would start with the thickened and chronically inflamed periosteum with a subsequent laying down of subperiosteal new bone. The surface of the new bone in these conditions is usually smoother than that presented in this patient. We explain, however, the irregularity of the surface here by the fact that we have direct access to pyogenic infection through our cutaneous ulceration, and this irregular formation of bone we take to be characteristic of the so-called pyogenic periostitis ossificans.

Summary:

(1) This appears to be a case which we are definitely of the opinion to syphilitic with a pyogenic infection superadded.

(2) The most interesting part to our mind is the position and nature of the new bone formation.

(3) The failures of the therapeutic measures taken also present an interesting phase.

588 Spadina Ave.

Industrial Medicine

TREATMENT OF HAND INFECTIONS FROM THE ECONOMIC VIEWPOINT

Whilst it is the custom in many medical schools and in hospitals to give very comprehensive instruction concerning the technique of operations such as gastrectomy, bone plating, autogenous grafts, and the approach to the brain by osteoplastic flaps, operations which ninety-nine out of a hundred graduates and ex-residents will never be called upon to perform, the treatment of hand infections is too often left to the common sense and some hazy anatomical knowledge of the student who is prevented from even profiting by his mistakes, since it rarely dawns upon him that better might have been done by one more experienced in this line of surgery. Considering the enormous amount of crippling due to hand infections, Mock's article (*Surgery Gynecology and Obstetrics*, October, 1915), is peculiarly valuable in that it is based on a study of 1,600 cases. He notes that the part played by hand infections in the economy of the industrial world is shown by statistics and statements from various industries and accident insurance companies. Five of the largest accident insurance companies record that 15 per cent. of the total disability is due to hand injuries. In 20 per cent. of these hand injuries the disability is due to infections. Of all hand accidents it is estimated that 65 per cent. of disabilities are the result of minor injuries which have become infected; 35 per cent. are due to other injuries, as broken fingers, lacerations, crushing injuries, etc. Over 50 per cent. of hand deformities are the result of infected injuries. Severe hand injuries, such as extensive lacerations, or severe crushing injuries, seldom become dangerously infected. The nature of these injuries is such that the patients are forced to consult a doctor at once.

Early treatment of all accidents, no matter how slight, would reduce infections to a marked degree. Tincture of iodine is regarded as the most efficient protector, and it is advised that every industry should supply each department with a bottle of tincture of iodine and another bottle containing applicators, and should instruct each employee to paint every wound, no matter how slight, with the tincture of iodine at once, even before reporting to the doctor. Mock installed this system in a large industry and noted

an immediate reduction of 38 per cent. in the number of infections. Practically all of the infected cases failed to use iodine at once. The use of hydrogen peroxide, bichloride wash, or soap and water on a fresh wound is never indicated. These methods tend to scatter the dirt and infection throughout the wound. This is especially true of hydrogen peroxide. The coincidence of tonsillitis and finger and hand infections was noted so often that Mock made a careful bacteriological study of a series of these cases, and as a rule the same germ was found as the cause of both. The increase of hand infection is repeatedly noticed with the increase in tonsillitis. The removal of the tonsils when diseased, therefore, would not only stop the sick disability and the spread of the disease throughout a department as an epidemic, but would be a great preventive measure against infection.

In the firm over which he has control he notes that the total number of infections has markedly decreased in the last two years notwithstanding a 40-per-cent increase in the number of accident cases reported to the doctor's office, and this he believes is due chiefly to the enforcement of the rules that every accident case must report at once to the doctor, and, when indicated, must use iodine at once.

From his study of 1,600 cases of finger and hand infections and their complications during the last three years Mock is convinced that a radical form of treatment of all hand infections is the most economical plan that can be adopted.

Many of the cases were treated as ambulant ones by opening and dressing. When a case threatened to be serious it was always made a hospital one, nitrous oxide being given, and the infection opened, the patient being kept constantly quiet in bed, with continuous hot, moist dressings applied until the acuteness of the condition had subsided. Wide-open radical treatment of these infections means a much more rapid recovery. Many cases of prolonged disability and also of permanent deformities result from a wrong diagnosis of the type of infection and a lack of understanding as to the location of the pus, and inadequate surgical interference—either too small incisions, or at times too large or too many incisions.

Kanavel has demonstrated conclusively that there are certain definite spaces where infection, entering at various points on the hand, tends to spread. These are the synovial sheaths about the tendons, commonest site for the more serious forms of hand infections; the lumbrical and subaponeurotic space at the edge of the palm, where the so-called "collar-button" abscesses form; the

thenar space; the middle palmar space; the hypothenar space; the radial bursa; the ulnar bursa. Through the last two spaces infections usually spread from the hand to the forearm.

The line of treatment lies in early adequate and properly placed incisions; drainage, if any, by rubber tissue; and the use of Bier's hyperemia. *Ther. Gazette.*

HAZARDS IN HANDLING GASOLINE

During 1913 in the United States 1,040 persons were burned to death and 3,120 persons injured (a weekly average of twenty persons killed and sixty persons injured) on account of gasoline fires. In harmony with experience respecting human ways and human indifference, the increasing use of gasoline and other liquid fuels which are dangerous because of their ready inflammability will probably increase the number of accidents which cause loss of life as well as great damage to property. Miscellaneous hazards in the use of the inflammable products exist which lead to leakage of these volatile substances and their ignition by spontaneous and unsuspected methods, as well as those due to obvious carelessness. A feature, however, which is not readily comprehended and which is a serious source of danger is the fact that gasoline or gasoline vapor burns, but a mixture of the vapor and air is highly explosive. The Bureau of Mines illustrates the situation in these words: If one takes the cover off a full pail of tightly enclosed gasoline and applies a match to the surface, the gasoline will flare up and burn as long as the gasoline lasts. On the other hand, if one puts a few drops of gasoline in a small tightly enclosed pail, waits a few minutes, and then introduces a flame or an electric spark, a violent explosion will most likely result. In the first case the vapor burns as fast as it comes from the gasoline, and mixes with the oxygen of the air; in the second, the oil vaporizes in the pail and mixes uniformly with the air in it to form an explosive mixture, and on ignition explodes. Consequently, when one hears of a disastrous gasoline explosion one may be sure that it resulted from the mixing of the vapor from the gasoline with air in the proportions necessary to form an explosive mixture. The behaviour of illuminating gas, which burns quietly when liberated alone, but explodes when a mixture with air is heated, is quite analogous. The public has been slow to appreciate these distinctions, and hence they deserve emphasis. At ordinary temperatures, air will hold from 5 to 28 per cent. of gasoline vapor. As gasoline vapor is about three

times as heavy as air, in a room containing a mixture of the vapor with air the vapor is found in largest proportion near the floor. According to the government experts there is needed only a small proportion of gasoline vapor to render air explosive—1.4 cubic feet of the vapor to 97.5 cubic feet of air. One gallon of gasoline can under ideal conditions render 2,100 cubic feet of air explosive. A dangerous feature of gasoline vapor is that it may travel a considerable distance from the gasoline and there be ignited, the flash travelling back to the container of the liquid and causing a roaring fire in a few seconds.—*J. A. M. A.*

THE TOXICOLOGY OF BENZENE

The best way to dispel any uncertainty regarding the cause of death by foreign substances is to discover the offending invader in the body itself. When a metallic poison like arsenic or a toxic alkaloid like strychnine can actually be isolated from a dead body in quantities sufficient to constitute a fatal dose, no further evidence of the source of harm is ordinarily required. There are poisons, however, which evade detection because they are susceptible to rapid change in the organism, while still other harmful substances may elude identification because of the inadequacy of some of the technical methods at present employed in toxicologic analysis. This appears until lately to have been the case with benzene (benzol) which, though not as yet an important source of danger in this country, is now becoming more conspicuous as a cause of poisoning in man. Benzene, which is a definite chemical compound (C_6H_6) derived from coal tar must not be confused with benzine, a mixture of volatile hydrocarbons, derived from petroleum. The older textbooks on toxicology have little to say about benzene or the hydrocarbons that commonly accompany it in the industries. A growing source of danger lies in the inhalation of benzene vapors. When benzene is taken by the mouth it appears to be poorly absorbed. A part is said to be excreted by the lungs, and a small fraction may even be oxidized slowly in the body. At the pharmacologic institute of the University of Berlin, Joachimoglu has succeeded in perfecting a method for detecting benzene and measuring the quantity present in animal tissues. By this means, interesting facts regarding the distribution of the poison in the body have now become available. It has been demonstrated that in benzene intoxication the brain and spinal cord contain relatively more of the organic poison than do any

other organs. This is without doubt related to the fact that, owing to its solubility in fats and fatlike compounds, benzene has a natural "affinity" for the lipoid of the nervous tissues. The same distribution, for comparable reasons, has been made for chloroform and acetone. Similar findings are also to be expected in the case of toluene (toluol, methyl benzene) which, though chemically closely related to benzene, has less practical importance with respect to the possibilities of industrial poisoning.—*J. A. M. A.*

THE POSSIBILITIES OF POISONING WITH CARBON MONOXIDE

The progress of science and the improvement of industrial conditions have made possible the prevention and elimination of many hygienic dangers that beset man in his daily life. At the same time, newer modes of living and processes of manufacture have brought novel and often unanticipated menaces to the welfare of those who are concerned with them. An illustrative instance of this is the history of carbon monoxide as a source of poisoning. This product has long been known as a harmful admixture in certain combustion products; and, when attention was directed to it from time to time, steps were taken to avoid the danger involved. Mild types of ordinary combustion product poisoning still occur occasionally in homes as the result of heating apparatus with poor drafts, in gas plants, and in other places, but they are recognized and subsequently averted by proper ventilation. The installation of large electric furnaces, such as those in use at Niagara Falls, brought the possibility of carbon monoxide poisoning in an unusual way. Tons of the gas are liberated in these plants every day, but provision is made for its prompt oxidation to carbon dioxide so that no harm whatever is threatened except when there is an occasional temporary imperfection in the oxidation and ventilation arrangements. The danger from illuminating gas has increased with the augmented use of "water gas" in this country. This is particularly harmful because of its large content of carbon monoxide. It furnishes a considerable proportion of the deaths by poisoning. A "miner's disease" of some interest has been associated with carbon monoxide derived principally from explosive used in blasting. The domestic forms of poisoning with carbon monoxide gas from the use of defective heating appliances are not always of moderate severity. Usually headache, nausea and circulatory failure are the sole symptoms; but the cases may often assume a more serious aspect. This is pos-

sibly owing to the subtle ways in which the poison gains unsuspected entrance into the system. There may be repeated exposure to danger which does not reveal itself until a careful investigation is made. It is sometimes almost impossible to detect the presence of the gas and to determine what part it plays in symptoms of malaise. Even small percentages of carbon monoxide become a menace to health when the intoxication takes a chronic form. For this reason, if no other, every source of poisoning with this gas should be ascertained when possible. That carbon monoxide can arise in connection with cooking by gas has been demonstrated anew by Meyer. Whenever a gas flame comes into contact with cold surfaces the possibility of imperfect combustion arises, and the products will include more or less carbon monoxide. Conditions for this are found in the arrangement of many of the gas water heaters that have attained considerable popularity in recent years. Complaints of headache and mild symptoms of carbon monoxide poisoning are sometimes presented by kitchen or laundry workers who are accustomed to remain in poorly ventilated rooms containing modern household devices of the sort referred to. The institution of suitable hoods and drafts is an essential part of any larger outfit of such gas heating appliances. The danger of combustion gas poisoning is thereby averted. The gas engine and the gasoline motor have also brought with them the unanticipated possibility of inducing intoxication from carbon monoxide. Whenever the explosion of the combustible mixture is incomplete or of moderated intensity, this gas may be formed in not inconsiderable amounts. Outdoors this is of little consequence; but indoors carbon monoxide as well as other combustion gases of the omnipresent motor may produce dangerous contamination of the atmosphere. This should now be widely recognized in the interests of hygiene. —*J. A. M. A.*

THE DANGERS OF RUBBER MANUFACTURE

The rubber industry in the United States is important, employing tens of thousands of men and women, and increasing continually. Whether or not it is attended with risk to the health of those engaged in it, and is to be classed as a dangerous trade, most of us would be unable to say. In Germany and France it is considered a decidedly dangerous trade, and many cases of poisoning from carbon disulphide used in vulcanizing rubber are recorded in the literature of those countries. In one rubber manufacturing city, Leipzig, Laudenheimer, found fifty cases of carbon

disulphide insanity in Flechsig's clinic, and this substance is still largely used in German rubber works. In a recent French publication are described eight cases of mental breakdown among thirty men who were using carbon disulphide in pasting rubber strips on belting. In the British reports of earlier years this poison and naphtha (used in making rubber cloth with a paste of rubber and naphtha) were said to be the cause of much ill health and serious nervous trouble among girls especially, and though the use of carbon disulphide has been largely given up now, the fumes of naphtha are still a troublesome feature in British rubber works. Another volatile poison frequently mentioned in continental reports is benzene (benzol, C_6H_6), more poisonous than benzine and naphtha, and cheaper than the latter over there.

A bulletin dealing with the use of poisonous substances in the rubber industry in this country has just been issued by the federal Bureau of Labor Statistics as part of a series on industrial accidents and hygiene. The basis of this report is an investigation of rubber factories in different parts of the country manufacturing all varieties of goods. It is surprising to learn that so many poisonous substances are used in this industry. The list includes lead compounds, such as litharge, the basic sulphate of lead, the basic carbonate of lead, and red lead; aniline oil; sulphides of antimony; petroleum products; coal-tar benzene; carbon disulphide, and carbon tetrachloride. In addition to these compounds, concerning which definite information could be obtained, Dr. Alice Hamilton, who prepared the report, learned of the use in reclaiming rubber, of various phenols of different degrees of crudity, and also of pine oil, turpentine, tar, and a product of the action of carbon disulphide on aniline known as thiocarbonilide. The rubber industry has many trade secrets, and information about all the compounds in use, especially in rubber reclaiming, was difficult to secure.

In spite of this array of poisons, the report does not characterize the rubber industry in this country as an inherently dangerous trade. What danger there is, and it is evident that most factories are far from safe in certain departments, come from carelessness in the handling of poisons so that preventable dusts and fumes are allowed to escape. This was found to be true in almost all the factories inspected, even the best. That such accidents are not more generally known is explained by the fact that out of the whole force in a plant only a small proportion engage in work exposing them to poisoning, so that even if the sickness rate among them is high, it makes little impression.

In comparing American methods of manufacture with the European, the advantages are seen to be on the American side. We do not use carbon disulphid in vulcanizing to any great extent. Dr. Hamilton states that she found only 130 men using this substance in all the factories visited, and she contrasts this with a statement of the German factory inspectors' report for 1910 concerning a single factory in which the installation of a certain machine had replaced the work of 150 women vulcanizers. No women do this sort of work in America. Another reason for the comparative safety of rubber work in America is that most of our rubber cloth is made on calenders, by pressing thin sheets of rubber into the fabric, and then vulcanizing by heat. In England and on the continent the usual method is by "spreading," that is, pressing a paste of rubber and naphtha or benzene into the fabric and then letting the volatile part evaporate, and finally vulcanizing by means of carbon disulphide. This method is used also in America, but only exceptionally, as benzene is too expensive to be used in large quantities.

These advantages are great, yet according to the report they are not sufficient to make the industry altogether free from danger, in the absence of proper precautions. Consequently lead poisoning is not uncommon among the men employed in compounding rubber and mixing it on the mills. Acute, severe benzine or naphtha poisoning is said to be rare, but mild chronic poisoning is probably very common among the men and women who apply rubber cement. The toxicity of antimony pentasulphide was so much in doubt, being practically ignored by the toxicologists, that the bureau asked Prof. A. J. Carlson to determine whether or not there was any danger in the use of this compound. Carlson's report is found in the appendix to the bulletin. He tested the golden and the crimson sulphides with human gastric juice, and found that about 3 per cent. of the former and 8 per cent. of the latter passed into solution, showing that there is a possibility of poisoning in the case of workmen exposed to large quantities of the dust, as is true in rubber compounding.

Carbon disulphide is said to be unknown as an industrial poison to physicians in this country, even to those in rubber towns; yet the investigators were able to discover cases of carbon disulphide pyschosis and paralysis among the vulcanizers of dipped goods and the splicers of inner tubes for tires. Dr. Hamilton suggests that other cases would perhaps come to light if the industrial history of the inmates of certain Ohio insane asylums were studied as Laudenheimer studied those in Leipzig.

Carbon tetrachloride is a new substance in the rubber industry, introduced because of its noninflammable character to take the place of the highly inflammable carbon disulphide as a vehicle for sulphur monochloride in vulcanizing thin or highly colored goods, or in splicing inner tubes. Waller in England and Lehmann in Germany have shown that it is decidedly toxic; according to the former twice as toxic as chloroform, according to the latter rather less so than chloroform. It is less dangerous, however, than the disulphide.

Aniline oil, also unfamiliar as an industrial poison in America, is shown to be fairly common, especially in tire works and in the reclaiming of rubber, and it is said that the exposure to aniline fumes is increasing since we have had to begin to manufacture our own aniline, the German supply having been cut off. This is an insidious poison, for the odor is pleasant and the fumes do not give warning of their harmfulness by irritating the eyes and throat, as do most volatile poisons. Cases of aniline poisoning are said to be well known in Arkon, Ohio, and the victims are referred to as "blue boys," from the cyanosis which is the most striking symptom. The researches of Lehmann are quoted to show that very small quantities of aniline are needed to produce toxic symptoms, and a study of aniline poisoning in Akron plants by Rev. V. Luce is appended to the bulletin.

The rubber industry is thus seen to be a fruitful field for the study of some of the rarer industrial poisons. Nor do the ones described here complete the list. New compounds are continually being introduced and experimented on, some of them substances about which very little is known. Medical research on the effects of these substances on the human organism should keep pace with the chemical research into their value as compounds or vulcanizers. —*J. A. M. A.*

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COMMENT FROM MONTH TO MONTH

Drug Addiction offers a fertile field for cultivation on the part of the busy reformer. Whilst there is no means of knowing just how rapidly and how enormously "dope fiends" have multiplied in the last twenty years, there is plenty reason to fear the practice of taking harmful drugs, as opium, morphine, cocaine, heroin, etc., is greatly on the increase both in the United States and Canada. Should drug addiction be made an indictable offence?

There is no doubt more of these are coming under the attention of the physician in the United States since the enaction of the Harrison Narcotic Law; and it seems to be incontestably shown that as a State goes "dry," it also becomes "drugged." What wonder if the unfortunate jumps from the frying pan into the fire! No doubt some alcoholics, deprived of easy access to the bar, readily adapt themselves to the more congenial environment of the drug store. But whilst it may be the case in some instances that insatiable thirst is not satisfied with alcoholics alone, but must needs, as well, be associated with drug appetites, it does not appear to be the rule in the majority of individuals. Possibly fully two-thirds of all drug addicts are purely so, and

have never taken alcohol at all. And what a wreck is the drug drunk!

From alcohol men will sometimes reform of their own free will, but from morphine and cocaine, they seldom or never. They seem to follow out to the word De Quincy's observation: "I do not readily believe that any man having once tasted the divine luxuries of opium, will afterwards descend to the gross and mortal enjoyment of alcohol." Having once tasted, or being once enveloped, their doom is almost sure.

How are all these drug addicts produced? McIvor and Price (*J. A. M. A.*), in a close study of a series of hospital cases have come to the conclusion that the largest single factor in the production of morphinism has been professional medication. In their series of 147 drug addicts studied and treated, thirty-eight took morphine exclusively, and out of that number twenty-eight learned of the effects of the drug through its hypodermic administration by the physician, or through *a physician's prescription.* The italics are editorially used, and being so used, present food for reflection. Practically all teachers of medicine warn students, when practitioners, never to place hypodermic syringes in the hands of patients. If prescriptions are re-filled by druggists, the professional man is not to blame.

It does not appear that any stigma can be attached to the profession so far as cocaine and heroin are concerned.

Block (*N. Y. M. J.*) says: "Normal persons never become drug habitues." Anyway, if they do, they are easier cured if the cause is removed.

How is this evil to be prevented? Is it to be by the prohibition of manufacture, importation and sale thereof; or by the abolition of the drug store?

In the prevention of alcoholics and drug addicts there are latent possibilities, and preventive medicine may some day play a conspicuous part in such social problems.

In the meantime, however, until legislators awake to their opportunities, the profession must continue to do their best to treat and cure both alcoholics and drug addicts. In the treatment of the cases cited above the best method proved to be gradual withdrawals of the drug with free purgation as in the Lambert treatment, and sedatives and stimulants as required in the individual case. This can best be carried out in some institution or hospital.

Reviews

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. December, 1915. Philadelphia and London: W. B. Saunders & Co. Canadian Agents: J. F. Hartz Company, Toronto.

As is now well known, Murphy's Clinics is a record of cases in which the history of the cases is given, the operation described, and Doctor Murphy's comments on each case. It is particularly valuable for surgeons. The present volume keeps up the excellent standard originated in the early volumes.

Handbook of Medicine. By William R. Jack, B.Sc., M.D., F.R.F.P.S.G., Physician to the Glasgow Royal Infirmary, etc. Edinburgh: E. & S. Livingstone. Price, 8s. net.

A close examination of this handbook of medicine, now in its fifth edition, and the reading of some of the articles, convinces us it is a good book for medical students, especially to gain a concise knowledge on short notice, and very helpful as a review manual just prior to examination time. It is not intended to fully cover the field, but only as an aid in acquiring a working knowledge of the subject.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, M.D., Consulting Surgeon to the Eastern Long Island Hospital. Second edition, thoroughly revised and enlarged. Octavo of 504 pages, with 299 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, $6.00 net; half morocco, $7.50. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

This book is beautifully illustrated, and although the principles of cystoscopy have changed but little in the past four years, still a new edition, with additions, is satisfactory as assuring that the best is herein to be obtained upon the subject. An entire new section is devoted to pyelography. Other chapters have been entirely rewritten. The therapeutic uses of the cystoscope are abundantly set forth.

Surgical Operations with Local Anesthesia. By ARTHUR E. HERTZLER, A.M., M.D., Ph.D., F.A.C.S., Surgeon to the Halsted Hospital, Kansas; Surgeon to the Swedish Hospital, Kansas City, Mo.; Surgeon to the General Hospital, Kansas City, Mo. Second edition: 327 pages, 173 illustrations; cloth bound. New York: Surgery Publishing Company. Price, $3.00.

The rapid sale of the first edition covering minor surgery and the demand for a more complete work upon the subject covering both major and minor surgical work, has induced Doctor Hertzler to present this second volume, which for completeness as to detail and price we believe places it in a class by itself among those textbooks upon this most interesting and growing subject.

Bandaging. By A. D. WHITING, M.D., Instructor in Surgery at the University of Pennsylvania. 12mo of 151 pages, with 117 original illustrations. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, $1.25 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

This little book is opportune at the present time, owing to so many medical men being required for service in the European battlefields. It will help wonderfully to review bandaging, learned in school-days, but often perfunctorily performed. It is well illustrated, and one can readily learn from these and the text how the perfect bandage should be applied.

American Illustrated Medical Dictionary (Dorland). A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Eighth revised edition. Edited by W. A. NEWMAN DORLAND, M.D. Large octavo of 1,135 pages, with 331 illustrations, 119 in colors. Containing over 1,500 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company. 1915. Flexible leather, $4.50 net; thumb index, $5.00 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

Dorland's has for several years been one of the standard medical dictionaries. That is seen from just bearing in mind this is the eighth edition. It is needless to say it has been carefully revised and brought up-to-date. No better dictionary is before the profession, although there are some good ones.

Painless Childbirth. By Dr. Carl Henry Davis. Chicago: Forbes & Co. Price, $1.00.

A book of unusual importance has just appeared, written by Dr. Carl Henry Davis, of Rush Medical College and The Presbyterian Hospital of Chicago, entitled "Painless Childbirth, Eutocia and Nitrous Oxid-Oxygen Analgesia. This book is important for two reasons: it is the first book by an obstetrician to thoroughly discuss the various methods employed in the attempt to secure painless childbirth; and, secondly, it is the first report of the results of varied experience with the nitrous oxid-oxygen analgesia, which will undoubtedly become the analgesic of choice in obstetrics.

The first part of the book traces the development of the attempts to relieve the suffering of labor. The chemistry, pharmacology and toxicology of the various analgesics are compared and their advantages and disadvantages considered with unbiased fairness.

In the second part of this volume eutocia is given as the goal for which the physician is striving.

A Manual of Pathology. By Guthrie McConnell, M.D., formerly Professor of Pathology and Bacteriology, Temple University, Medical Department, Philadelphia. Third revised edition. 12mo volume of 585 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1915. Cloth, $2.50 net. Sole Canadian Agents: The J. F. Hartz Co., Ltd., Toronto.

This is a well-arranged and well-written book. The new edition brings it abreast of present-day pathology and bacteriology. The student will find it a very explicit textbook, while the practitioner may study it with profit as giving a working manual which will briefly keep him in touch with the general and specific parts of the two subjects.

Instinct and Intelligence. By N. C. Macnamara, F.R.C.S. London: Oxford Medical Publications. Toronto: McAinsh & Co., Limited. Price, $2.00.

In the pages of this little book an effort is made to determine the training of the intellect, and that the behaviour of human beings depends upon the work performed by definite parts of the brain. It is an inquiry into how far education can go in developing intellectual phenomena. It will aid in understanding how to build up in the child a chaste and self-reliant character.

News Items

ONTARIO MEDICAL ASSOCIATION

The programme for the Annual Meeting of the Ontario Medical Association, which takes place at Toronto May 30th to June 2nd, is well in hand, and although some details have still to be completed, we are able to give a provisional outline of the discussions and papers which have been arranged.

The address in Medicine will be given by Dr. Elliott P. Joslin, of Boston, on the Treatment of Diabetes. A symposium on the Rôle of the Mouth, Throat, Nose and Accessory Sinuses in Disease has been arranged, in which Doctor Goldthwait, of Boston; Dr. Weston Price, Cleveland; Doctor Wishart, Toronto, and others will take part. Doctor Percy will give the address in Gynecology.

Owing to the increasing problems presented by the war, in its medical aspects, a meeting of Military Medical Officers will be held.

Sectional meetings will be held in Medicine, Surgery, Obstetrics and Gynecology, and Eye, Ear, Nose and Throat. A large number of papers have been arranged for the Medical Section, including "Treatment of Pneumonia," by Dr. Solomon Solis Cohen; "Neurosis in Returned Soldiers," Dr. G. Howland; "Effects of Gases on Soldiers," Doctors Elliott and Tovell; "Typhoid Inoculation," Dr. George Porter; "Tuberculosis," Doctor Parfitt; "Cerebro-Spinal Meningitis," Captains Fitzgerald and McClennahan; "Canadian-made Drugs," Professor Blackader, Montreal; "The Wassermann Reaction in Relation to Diagnosis and Treatment of Syphilis," Professor Connell, Kingston; "Duodenal Feeding with Tube," Doctor Cleaver, New York; "Treatment of Lues in Children," Dr. George Smith; "Treatment of Cancer," Dr. W. H. B. Aikins; "Pernicious Anemia," Dr. Chas. Mackay, Seaforth. Papers have also been promised by Major J. W. S. McCullough, Dr. Alan Brown, Doctor Campbell, Napanee.

In Surgery there are papers on "Appendicitis," by Dr. M. O. Klotz, Ottawa; "Gall Stones," by Doctor Olmsted, Hamilton; "Pyloric Stenosis in Infants," by Dr. W. E. Gallie, Toronto; "Fractures," by Dr. G. M. Rogers, Ingersoll; "Intestinal Obstruction," by Dr. H. A. Bruce, Toronto; "Renal Calculi," by Dr. W. W. Jones, Toronto; "Transfusion," Dr. C. L. Starr, Toronto;

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"Conservative Surgery in Injuries of the Hand," Dr. N. A. Powell; "Intussusception," Dr. F. N. G. Starr; "Perforated Ulcer of the Greater Curvature," Dr. J. K. McGregor, together with papers by Drs. G. A. Bingham, Toronto, W. T. Parke, Woodstock, and others.

The Eye, Ear and Nose Section has invited Dr. Justus Matthews, of the Mayo Clinic, and he is giving a paper on "Tonsillectomy, with its General Results." There are also papers by Dr. E. Boyd, on "Foreign Bodies in the Esophagus"; "Treatment of the Blind after the War," by Dr. B. C. Bell; "Orthodontia in its Relation to the Nose and Throat," by G. W. Grieve, D.D.S., and a paper by Dr. James McCallum.

The Section in Gynecology and Obstetrics is not yet complete, but Doctor Percy, Dr. W. H. Weir, and Dr. J. H. Morgan have promised contributions.

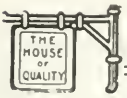
As will be seen by this brief outline, there is a wealth of material to be discussed, and many papers by men of wide reputation. We trust later to announce the programme and arrangements more in detail.

Dr. Norman W. Bragg, Brantford, Ont., has offered his services to the Government for overseas.

A. Davis & Sons, Limited, Kingston, have sent a cheque for $1,000 to Queen's medical faculty for equipping forty beds in Queen's General Hospital at Cairo, Egypt. This firm some time ago gave the hospital a motor ambulance. Queen's Hospital was lately increased to one thousand beds.

That the Provincial Government's attention be called to the charge that there are certain persons in Vancouver practising the Christian Science faith for gain, was the recommendation made after three hours' deliberation by a coroner's jury. The jury was empannelled to inquire into the cause of the death of Mrs. Julia Frances German.

Capt. Dr. T. A. Carson, Orangeville, who has been appointed a member of the medical staff of the Ontario War Hospital at Orpington, left February 21st en route for England. The doctor, who was presented with a steamer trunk by his fellow-members of the Curling Club and a gold wrist watch by his Masonic brethren here, was escorted to the station by the local company of the Dufferin and Halton Battalion.



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Dr. E. C. Smith, Dr. D. E. Cleveland, of the Royal Victoria Hospital, and Dr. G. T. Griffith, of the Western Hospital, have been granted temporary commissions in the Royal Army Medical Corps, and will shortly go overseas to join one of the British hospital units in France.

Lieutenant-Colonel Marlow, A.D.M.S., has called a meeting of all the medical officers of the county battalions to confer on the question of dealing with the outbreak of typhoid in various districts. It has been decided to have all the troops throughout the county districts inoculated, and the medical officers will be instructed in the methods of carrying this out immediately. The doctors at present in attendance upon county troops will be supplied with the necessary equipment and instructions for the inoculation of the men under their care.

Operations in a tent heated by coal oil stoves while a driving sleet storm was in progress outside are described in a letter received in Toronto from Doctor Primrose, who is with No. 4 Canadian General Hospital at Saloniki. Doctor Primrose says: "We are having a taste of most inclement weather to-day, but we cannot complain, as hitherto we have had bright sunshine for about six weeks. Last night it began to blow, and then rain, and through the night it got colder, and we have had a driving sleet all day. I had some operating to do, and we managed to get the operating tent very comfortable, with a temperature of seventy degrees. This was accomplished by a number of coal oil stoves. Our operating tent is quite good now. It is a large marquee, which we have floored, and have laid down linoleum. It is about thirty feet long. We have two operating tables, a series of sterilizers, instrument cupboards, etc. It is really quite imposing and remarkably well equipped, so that when our medical visitors go around for inspection of our hospital they are greatly surprised by the completeness of the equipment in the operating room. Another show place is our laboratory, which is remarkably well equipped and the envy of some of our neighbors in the British hospitals. The fact is the fund we had raised for our equipment was a perfect godsend. We were able to get all necessary apparatus, and it is being used to tremendous advantage; in fact, in the laboratory a considerable amount of work is being done to solve problems outside of our own hospital, because it is the only laboratory sufficiently well equipped to do the work. Prof. J. J. Mackenzie, Dr. Duncan Graham and Dr. C. G. Imrie compose our laboratory staff, and they are very busy men."

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Publisher's Department

THE TREATMENT OF DYSMENORRHEA.—As the general practitioner knows only too well, dysmenorrhea is productive of much pain and misery. Especially does it often severely handicap the working woman, since if not relieved by a safe and effective remedy, it renders her temporarily either unfit for her daily vocation, or compels her to fulfil her task under circumstances which essentially lower her efficiency. Naturally many women when suffering from this distressful condition have recourse to opium or some of its numerous preparations, which to use an old adage, is, for the one afflicted, like "jumping from the frying pan into the fire." True, the pain will be relieved, but there is always the liability of establishing a habit, in addition to the other evils to be feared from the employment of opium or its derivatives. Fortunately it is rare that such drugs need to be used, except in the most exceptional cases, for in Phenalgin the profession have an excellent substitute, a remedy that exerts a thoroughly dependable anodyne or analgesic effect, without exercising at the same time any depressing or injurious action. Stated in brief, Phenalgin can be relied upon to control the severe pain of dysmenorrhea in all but the rarest cases, without the dangers or sequelae of other pain-relieving measures.

HERE IS A SIMPLE PRESCRIPTION TO CHASE AWAY GERMS OF GRIP.—Take equal parts of Listerine, Hydrogen Peroxide, Water. Spray the nose and throat. Keep your system in good condition: observe the simple rules of hygiene, and do not trouble yourself about the presence of grip.

The above is a prominent physician's prescription for a throat wash recommended by Dr. Samuel G. Dixon, State Commissioner of Health. It is offered on the theory that an "ounce of prevention is worth a pound of cure." The use of this prescription is conducive to cleanliness, and while these ingredients will not kill the germs of pneumonia, it will go a long way in warding off the malady which just now is claiming so many victims. This remedy can be obtained at any drug store at a moderate cost.

Dr. Dixon, in his weekly health bulletin, says:

"When compelled to submit to the evils of crowded civilization during grip and pneumonia seasons, it is well to get your doctor to

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write a prescription for a good disinfection solution to rinse the mouth and throat with several times a day. It has been demonstrated that there are many pneumonia germs in the mouths of those suffering from the grip."

"The Chinese method is the best after all," said a Pittsburg physician this morning. "In China, you know, they pay their doctors to keep them well. If people would see their family physicians now and then for an examination, there would be fewer cases of serious illness."

An Important Silver Germicide.—There are numerous silver salts on the market. One of the most efficacious of these is believed to be the proteid-silver compound manufactured by Parke, Davis & Co. under the name of Silvol. This product occurs in scale form, has a dark lustrous appearance, and contains about 20 per cent. of metallic silver. Silvol is slightly hygroscopic, consequently is readily soluble in water. Aqueous solutions of any strength desired may be prepared from Silvol—solutions having this important advantage: they are not precipitated by proteids or alkalies or any of the reagents that commonly affect other silver compounds in solution. Moreover, Silvol solutions do not coagulate albumin or precipitate the chlorides when applied to living tissue.

The use of Silvol is indicated in inflammatory affections of mucous membranes generally. It may be used locally in solutions as strong as 40 per cent. without producing pain or irritation. In acute gonorrhea, as an abortive measure, a 20 per cent. solution may be injected every three hours, while in the routine treatment the injection of a 5 per cent. solution three times a day is recommended.

Silvol penetrates tissue and destroys pathogenic bacteria. It is nontoxic. The product is available in two forms: powder (ounce bottles) and capsules (6-grain), bottles of 50. The contents of two capsules make one-fourth ounce of a 10 per cent. solution. For application to regions where the use of an aqueous antiseptic solution is impracticable, Silvol Ointment (5 per cent.) has been devised. This ointment is marketed in collapsible tubes (two sizes) with elongated nozzle.

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Original Articles

THE MEDICAL COMMISSION *

ORTHOPEDIC SURGERY.

Clarence L. Starr, M.D.

Your Lordship, I have been asked to present this morning the subject of orthopedic surgery, largely because it is the department of scientific medicine which takes care of a large percentage of the cases which the so-called irregular practitioners or practitioners of other systems, such as mechano-therapy, osteopathy, and so on, have come under their observation from time to time.

It aims at so qualifying men that they may be able to take advantage of mechanical methods of treatment, such as massage, hydro-therapy, etc., when it is of advantage to the patient, and at the same time to withhold mechanical treatment when it may be of no value, or even harmful.

With regard to the subject of state control in the various special departments of medicine or surgery, as was spoken of by the last speaker, it is my opinion, your Lordship, that this can be better controlled by the medical profession itself than by any legislation. In the case of orthopedic surgery, for instance, it is absolutely essential that a man have not only the regulation five years' training in college, but that subsequently he should spend several years further in special clinics where this work is done on a large scale in order that he may prepare himself for such specialty.

* This series of articles represents the views of different members of the profession, as laid before His Lordship, Mr. Justice Hodgins, K.C., Medical Commissioner, in the investigation that has been under way for the past two months or more, and we feel gratified to be in a position to give our readers throughout the Dominion the benefit of such interesting material.

It is quite possible, of course, for a man, immediately after his graduation, to attempt to specialize in this or in other departments, but it will be impossible for him to convince his colleagues or other members of the profession that he has any special qualifications for such specialty; and as he is dependent on these men for his practice it largely prevents such an occurrence taking place.

Another safeguard in the same direction is the fact that in order to get recognition in a special branch a man must become a member of some organization that is comprised of a number of men practising the same specialty. For instance, if one wishes to be recognized as a first-rate orthopedic surgeon he must almost necessarily become a member of the American Orthopedic Association; and in order to secure membership in such an association he must have practised for five years after graduation and have shown himself to have attained scientific eminence in this special branch. He must produce evidence of such attainments. He must have a high standing among his colleagues in the section in which he lives. He must have published a series of articles on this special branch of a distinct type such as will pass the members of the Standing Committee.

Such safeguards as these, your Lordship, make it impossible that a man should attempt to practise a specialty without proper qualifications, and safeguard the public without special legislation.

The Commissioner: Is there any such association as you speak of in Canada, Dr. Starr?

Dr. Starr: There is none in Canada, your Lordship, because there are practically very few men practising this department of medicine here. Most of us in Canada who are practising this particular branch of surgery are associated with the American Orthopedic Association, as we find it to our advantage to mingle with our confreres across there in order that we may get the benefits of the work being done by them owing to their increased facilities.

Q. That association is composed of physicians who are practising orthopedic surgery?

A. Yes; in Canada and the United States.

Q. Does it prescribe a course?

A. No.

Q. Does it examine?

A. No, your Lordship. When a physician makes application for membership in that association, that application is passed upon by a membership committee. They consider the qualifications of the applicant—that is, the scientific work that he has done in this department since the time of his graduation.

Q. How do they find that out, Dr. Starr?

A. By his writings, by the work he has done in his particular district and by contact with, and inquiry of, men in his district as to the type and character of the work that he has done. I might point out to your Lordship that work of this kind cannot be hidden. If a man is doing any work of moment it is known to his colleagues. Take, for instance, our own work in the Children's Hospital. We have worked out a system of prevention of deformities and of correcting existing deformities which we feel is distinctly in advance of the work that is being done by other members of the profession.

Q. The association does not lend any lustre to the name of the man who does that good work—if it is good?

A. It does, indeed, your Lordship.

Q. Because he only gets there because he has qualified himself: that shows he is qualified? Now if that be so, Dr. Starr, what is the benefit of membership in that association unless they have a standard of examination and some way of testing it?

A. They have this test, your Lordship, which is much more adequate, it seems to me, than an examination. The applicant for membership in the association has to pass in the opinion of his colleagues a high standard in that particular department. He has got to come up to a certain standard of scientific attainment, and if he does not reach that high standard of attainment he is turned down for one or two years' further study in foreign clinics, and it is suggested that that course should be pursued.

Q. Take a concrete case. If a man in Toronto wishes to obtain membership in that association, he might be regarded here as thoroughly qualified and eligible for membership, but the association would not make any inquiry as to the opinion of his medical friends here, would it, as to his qualifications or attainments?

A. His qualifications, your Lordship, are judged by a jury of his peers—men who are amply qualified to judge as to whether or not he has reached or attained a sufficiently high

standard to warrant his being accepted as a member of that association.

Q. I should think that a jury of his peers in Toronto would be by far the better way of deciding as to his qualifications. They would know more about it, I should think.

A. The men doing that special departmental work are not in Toronto. You might be able to find four men here, but no more.

Q. How can that association ascertain what that man's qualifications are over here, Dr. Starr?

A. Well, your Lordship, take my own case. My work in the Children's Hospital here is sufficient. They know the work that is done by myself here, and they inquire into the results of that work. That is sufficient in itself, besides what scientific articles have been published in the journals of Canada and America.

Now in presenting my part of the question to-day, my object was to show your Lordship the advances which have been made in orthopaedic surgery within comparatively recent years, and to point out to what these advances may be ascribed. It seems to me that the advances made similar to those in general surgery —and you know what these are, sir—have been largely due to medical research, to an increasing knowledge of etiology and to a thorough study of the cause of diseases. The etiology—that is the cause of the diseased condition in chronic forms—is coming more and more to the front as a distinctive branch of medicine. For instance, it was from this source, sir, that the contagious and infectious character of infantile paralysis was first demonstrated. That has resulted from much research work along this line. Now the extension of this malady—which is one of the most fearful in causing deformities that we have to do with—is limited, and can, in fact, be more or less prevented.

Cases of chronic arthritis frequently come under the observation of such systems of treatment as those practised by the osteopaths or allied branches of healing. Demonstrations have proved that these chronic infections, which were at one time all classed under the term of rheumatism, are due to a series of infective agencies, a great many of them produced in mouth cavity or in teeth cavity, tonsils, in the structures of the tonsils, in the sinuses of the face and nose, carrying infection through the blood-stream to the joint. This infection invades the

various joints of the body and causes the disturbances which arise.

But the point that I want to make, sir, is that it makes all the difference in the world what type of infection is present as to what method of treatment should be meted out to such a case.

Q. How are such cases treated by the osteopaths?

A. They are all treated alike, your Lordship.

Q. As being what?

A. Well, as I understand it, they are all classed as maladjustments or faulty adjustments of the bone.

Q. They are not treated as rheumatism?

A. They are not treated as rheumatism; they are not treated as infectious. That is the main point I want to make. These cases are treated as subluxations or dislocations. That is a mechanical condition, not a condition produced by definite organisms. These cases have to be treated according to the etiological factor. You have to eliminate the infectious origin, and these people cannot, in a great majority of cases, carry out the treatment which should be adopted in that particular case.

Now the second point I wish to make, sir, is that the pathological conditions are being increasingly studied. The study of pathology teaches us that the diseased condition results from the introduction of these various organisms and different types of infective agencies into the parts which may be affected, and assists us very materially in administering the proper treatment.

To illustrate what I mean, permit me to instance two types of cases and their treatment.

For instance, a tubercular disease of the joint is known to invade the bone, not the joint structure itself, but the bone tissue underneath the joint, undermining the cartilage and destroying the bone tissue underneath; whereas in a case of, say, toxic arthritis, resulting from infection from the mouth cavity, there is produced a lesion of the cartilage itself, not an undermining.

Now one does not have to be a prophet, or the son of a prophet, to see that the treatment given in one condition will be absolutely fatal to the other condition. That is to say, if a joint surface is undermined and manipulation of that joint is undertaken, the joint will be destroyed; whereas in the other case, with the adhesions of the joint surface, to give any manipu-

latory treatment of that would be to the betterment of the condition.

Now the point I want to make there is that unless a man has sufficient preliminary knowledge and sufficient anatomical knowledge and sufficient pathological knowledge of the condition, he cannot differentiate the tubercular lesion from the infectious one, and the consequence is that the patient is going to suffer, is going to be injured instead of benefited.

I can produce instances, your Lordship, of cases of tubercular joints which have come under my notice where the condition has been made infinitely worse by manipulatory treatment at the hands of a practitioner of that class.

Now the foundation of chiropractic teaching, as I understand it, is that the diseased condition is due to a displacement of spinal bodies. I can instance one case where a chiropractor, in his endeavor to correct a supposed displacement, broke down a fibrous healing of a tuberculous spine, and the result was immediate paralysis of the patient, by pressure on the cord, from that point down. I maintain, sir, that if that man had possessed an adequate knowledge of pathology and a knowledge of the etiological factor in the case he would not have made that mistake. That is a case that ought to have had absolute fixiation and absolute rest—no massage or manipulatory treatment of any character.

Q. But do not the regular medical practitioners sometimes make mistakes, Dr. Starr?

A. Not very frequently in that type of case, sir. That is a case that ought to be about as plain as the nose on one's face. The real point at issue, however, your Lordship, is that these osteopaths claim it is not necessary to differentiate one type of case from another, and hence the foundation of their methods must be wrong, as instanced. On the other hand, in our department an effort is made to earlier and more accurate diagnoses, and I hinted at that speaking of the pathological condition. A man must, by proper preliminary education and study, be able to differentiate between the various types of joint diseases, because what might be a valuable therapeutic measure in one case may be useless as well as disastrous in another case.

Just one further point, sir, and that is with regard to the treatment of these conditions. There is nothing, absolutely nothing, in the system maintained and practised by osteopaths and chiropractors, or bone-setters, that is not within the knowledge of all regular medical practitioners, particularly the prac-

titioner doing orthopaedic work, and what is of value is daily being utilized. The services of a trained masseuse or masseur are always available; they take no responsibility for the diagnosis of the condition, but they do the mechanical work which is prescribed by the practitioner, so that as far as that element of the case is concerned it seems to me that with the one we have all of the advantages and none of the disadvantages.

I thank your Lordship very much for your attention.

MEDICAL CONDITIONS AT THE FRONT.

HERBERT A. BRUCE, M.D.

I was asked to say something, your Lordship, with regard to medical conditions at the front. From an observation of the injuries and wounds occurring in the present war the question arises: How would these injuries be treated by men who are not versed in the practice of surgery? What chance, for instance, would a man have with a hemorrhage from one of his blood-vessels if a surgeon were not at hand? If he had a serious injury to one of his limbs, crushing the nerves, muscles and bones, and was suffering from pain and shock, what help would one of these irregular practitioners, who do not believe in drugs, be able to render such a man? What condition would that poor fellow be in?

And then we have the very extensive injuries to the brain, necessitating trephining of the skull, and provision for drainage. What help could such a patient hope to obtain from a man who had not a first-class knowledge of surgery? Again, injuries to the spinal cord, such as are produced by projectiles of various forms—bullets, shrapnel—where the projectile has penetrated the cord, surely in a case of that sort surgery has been able to demonstrate its value. Again, I would ask what help could these poor, unfortunate fellows hope to obtain, under these circumstances, from any of the forms of treatment that we designate as "irregular"—osteopathy, chiropractic, and so on?

At the front one of the most serious conditions that surgeons are called upon to treat is septic wounds—wounds that have become septic in consequence of infection. Now in order to

treat these wounds intelligently and satisfactorily one must have a preliminary knowledge of bacteriology, a knowledge of pathology, a knowledge of chemistry, and a knowledge of practical surgery. I think the results which have been accomplished during the latter months in France in the treatment of these septic conditions have shown a great advance over anything we have been able to attain heretofore, all due to the scientific handling of these conditions. These are things about which the osteopath and the chiropractor know nothing.

A former speaker referred to the epidemic of typhoid fever which has obtained in former wars, and I would say further that not alone typhoid, but typhus and cholera are generally considered to be the concomitants of every great war. What has been our experience in the present war? We have now been at war fifteen months, and we have had no epidemics of typhoid, of cholera, or typhus in France; and this is due to the skill and scientific knowledge of the medical men who have had charge of the medical arrangements of the campaign. There has been typhoid in Serbia, simply because they did not have sufficient medical knowledge to enable them to cope with the trouble. This war, your Lordship, has been a revelation to the world in showing what tremendous advantages we are able to enjoy by a full and complete application of scientific methods in the practice of medicine and surgery. We employ massage, mechano-therapy, electro-therapy, hydro-therapy, and all other forms of therapy that will be of any advantage or benefit to the patient.

Q. What is therapy?

A. Treatment.

Q. Simply treatment?

A. Yes, your Lordship.

And I might say here that I saw no cases at the front that could be helped by the knowledge which I believe is generally possessed by graduates of these various irregular schools. It is essential that we should have the ability to diagnose before we can properly apply any treatment to disease.

I would like to read you an extract taken from the curriculum of the Central School of Osteopathy, page 34, under the heading of "Requirements for Admission":—

"They say one cannot be too highly educated, yet between sixty and eighty per cent. of the more than five thousand osteopaths now in the profession did not have the advantage of a

high school education, yet a good per cent. of these are successful osteopaths; and, if they would follow the Golden Rule, they would not vote to bar anyone from having the same chance as themselves. It is a well-known fact that those who started the first osteopathic school were not college or high school graduates. The laws of Missouri do not require that a graduate of osteopathy have a high school education; in a few States, however, this is required, and the preliminary educational requirement depends upon where the student desires to practise."

On page 43 we find:—

"These cautions are thrown in here because it is evident from osteopathic periodicals, where the experiences of students and practitioners are expressed, that when the commercial and selfish spirit prevails, students are bled at every corner for all that can be drawn from them and value received is not considered."

"In 1909 the Legislature of Massachusetts passed a law requiring osteopathic physicians to pass the same examinations as are required of the graduates of all medical schools."

Quotation from the *National Journal of Chiropractic*, page 8:—"In the beginning of our practice we find many cases—many diseases which are new to us. These should be looked up in your text-books until you become perfectly familiar with the disease met with. For instance, a patient comes to you and says that he has locomotor ataxia. That evening locomotor ataxia should be looked up in your books, and you should make yourself perfectly familiar with the cardinal symptoms of that disease. The next case of locomotor ataxia that comes to you will be treated by you with much more intelligence, for you are more familiar with it. I also want to say a word with regard to diagnosis. The large majority of patients who come to a chiropractor know before they come what they are suffering from. A diagnosis is not an essential. Occasionally, however, you will find one who has no idea of what his trouble is, and it is necessary for us to find out. According to the fundamental principles of chiropractic ninety-five per cent. of all diseases is caused by subluxation of vertebrae. If a patient has liver trouble there is a subluxation of the fourth dorsal vertebra, or he couldn't have liver trouble. There is no credit obtained by taking incurable patients. Tuberculosis in its advanced stages is incurable. As far as we know, we have noth-

ing to gain, but much to lose by taking such patients. You had better let them stay with their family physician, who can do them some good, than fool with you, with the chances that you will do them no good."

The position I would take in regard to the situation is that every person who is registered as legally entitled to treat the sick shall comply with the same educational requirements, both preliminary and scientific.

It should be unnecessary to argue that before rational treatment can be given that a thorough preliminary knowledge of the underlying fundamental principles is essential before it can be intelligently and safely carried out. A thorough knowledge of the structure and functions of the body in health as well as the conditions producing changes in these, that is to say, disease, is essential. Before intelligent treatment can be given it is, therefore, necessary to have a proper training in anatomy, physiology, pathology and pathological chemistry, organic chemistry, physics and bacteriology.

When all these have been thoroughly mastered it is then time to consider the therapeutics. It is necessary to have a thorough clinical training in order to recognize the various diseases, because it will be quite obvious that before any plan of treatment is undertaken one must recognize the disease which one is called upon to treat.

PHYSICAL THERAPEUTICS.

Charles R. Dickson, M.D.

I desire to submit some data, your Lordship, in regard to the status of physical therapeutics and its relation to this Commission.

Physical therapeutics, physical therapy, or physiotherapy, as it is variously termed, may be defined as the employment of electricity and other physical agents and methods in the diagnosis, treatment and prevention of disease, injury or deformity of the body. Among the chief physical agents thus employed, in addition to the various forms of electricity, XV-rays, ultra-violet rays, radium rays, may be mentioned water in the form of applications and baths of various sorts and temperatures,

external and internal, air of various temperatures and conditions prescribed as baths, or as climate, light, natural and artificial, heat, cold, and diet. Among the chief physical methods employed are exercise, active or passive; whether manual, as by massage, Swedish movement, or other manipulations; mechanical, as by vibration and exercisers of various sorts; also numerous manipulative and mechanical methods for correcting deformities and for influencing the various functions of the body. We may likewise include in this category suggestions made to patients to aid them in regaining a normal condition of health.

This list does not contain all the measures employed in physical therapeutics, but should suffice to show the scope and variety of the measures available. No mention of drugs, medicine or surgery is made in this list, but it does not follow that they are regarded as useless by those who employ physiotherapy. It means that many diseases, but not all, are curable without the aid of medicine, as the laity understands that term. This fact is acknowledged freely by the regular medical profession. The representative of the Ontario Medical Association has already testified that physical measures are recognized and employed by its members. And this recognition is of no recent date, as will be seen from the following facts.

The College of Physicians and Surgeons of Ontario, without whose license no one may practise medicine or surgery in this Province, and which is now being attacked on this score, was organized in 1866. The late Dr. John Robinson Dickson, of Kingston, my father, was its first president. He was acknowledged to be a physician of the first rank and a surgeon of eminence. For many years before his death he was Emeritus Professor of Queen's University. As medical superintendent of Rockwood Asylum he revolutionized the medical treatment of the insane. The opinion of such a man on medical questions should surely be of importance, and he was a firm believer in the value of electricity as a remedial agent, and did not hesitate to employ it in his practice. Nor was he alone in this belief.

I came to Toronto twenty-six years ago to devote my entire attention to the use of medical and surgical electricity, after several years of general practise in which I had employed electricity as well as medicine and surgery in suitable cases. Not that I considered it a panacea, but because I believed it often gave relief where other measures failed, and frequently proved a valuable aid to ordinary methods of treatment. My plan was to work in harmony and co-operation with fellow medical and

surgical practitioners, on strictly ethical lines. I believe I was the first regularly qualified medical practitioner in Ontario to do this, otherwise I would not go into these details; but I think that my experience may be of some assistance in this matter.

A couple of months after coming to Toronto, at the request of the Board of Trustees of the Toronto General Hospital, I instituted and conducted a Department of Medical and Surgical Electricity there. Shortly afterwards, I performed a similar service for the Hospital for Sick Children, and when St. Michael's Hospital was organized my services were again utilized.

The leading British hospitals are fully equipped with apparatus for physiotherapy.

In the United States there is an association devoted wholly to the cultivation and promotion of knowledge in whatever relates to the application of electricity and other physical measures in medicine and surgery. Only regularly qualified practitioners of medicine and surgery, who must be graduates of recognized medical colleges and members in good standing of their national and respective state medical societies, can become active members of this body, known as the American Electro-Therapeutic Association.

We have heard a great deal about osteopathy, chiropractic, manotherapy, drugless medicine, and Christian Science, as a means of healing our poor bodies, and there is no doubt that each may do much good. With this no one should find fault. But we believe that most of them are based on erroneous principles, and we do object to this, if these principles are to be taught in colleges here.

It is a very poor handful of chaff that does not contain at least one grain of good wheat. Now these grains can be picked out of all these handfuls and utilized, while the chaff is thrown away; and this is being done. One is quite safe in saying that there is nothing which these various cults have accomplished which cannot be accomplished at least equally well by rational recognized physical measures.

Physical measures will not cure all diseases, nor will any of these other cults. Many diseases must still be dealt with by medicine and surgery. Physiotherapy is merely one of the specialties of the practise of medicine, to be used in harmony and co-operation with that practise.

The trouble is that while many prominent physicians and surgeons and many hospitals admit that physical methods are

of value, very few appreciate the full extent of their usefulness, and the bulk of the profession know nothing whatever about them, nor how to employ them properly. The reason for this is that our medical colleges have hitherto failed to give lectures on physiotherapy, and their graduates have had to rely on reading such books as were obtainable for their knowledge of this subject. As a result of this, their sometimes dissatisfied patients have sought the services of one of these "irregulars" for relief when physiotherapy might have retained them on the physician's visiting list.

An ideal solution of the whole difficulty would be: First, settle on a satisfactory definition of medicine and surgery, and what constitutes a practitioner of these, bearing in mind that air, water, light, heat, cold and electricity are medicines, and very powerful ones.

Next, establish a college where physiotherapy may be taught on a thoroughly scientific basis, with preliminary instruction along customary medical lines, and access to hospitals and laboratories.

Then, let enlarged powers be granted the College of Physicians and Surgeons, and let it compel every medical student to pass an examination on physiotherapy before being allowed to practise medicine of any description. And give this body full power to prosecute offenders.

To those who do not desire to practise all departments of physiotherapy, but only wish to give massage, for instance, a complete medical training would, of course, be unnecessary; and the same rule would apply to those restricting themselves to the giving of baths, or similar minor branches.

Meanwhile, there are in this province some persons who have become skilled in the use of certain physical agents, such as some of the safer varieties of electrical currents, but are not qualified practitioners. Provision should be made to respect the rights of these people in any legislation that may be devised.

Provision should be made in all medical colleges for the scientific teaching of physiotherapy to all students.

Now, just a word, your Lordship, with reference to X-rays. X-rays are being used by a great many people in the city of Toronto, and it is a very dangerous thing to use. My own opinion is that none but regularly qualified medical practitioners should be permitted to use the X-ray for diagnostic or therapeutic purposes. Some of my dearest friends, men of high standing in the profession, have died as a direct result of

nsing the X-ray. I might say, your Lordship, that my present condition of blindness I ascribe to excessive use of X-rays in the early days, before we knew as much about it as we do now. You can see what this dangerous agent has done even to medical men. X-rays are just as dangerous as strychnine. You might as well permit these people to give strychnine in large doses as to allow them to use X-rays. Restriction should be placed on these things, and that, in my opinion, would be a solution of the whole question.

TORONTO UNIVERSITY HOSPITAL LOCATED AT SALONIKI

Dr. C. K. Clarke, Dean of the Faculty of Medicine, University of Toronto, has received a letter from Surgeon-General Roberts, commander-in-chief of the University of Toronto No 4 Canadian General Hospital, under date of November 28th, of which the following is an extract:

"The original orders read that we were to embark at Southampton, where all our goods had been collected in the advance depot of medical stores. We sent a working party of 50 men to Southampton, and they loaded about half of the stores on a transport that had been assigned for our use, when suddenly an order was issued that the stores were to be removed and loaded into trains. These were then sent to Devonport, and finally we received orders to entrain at 11.30 on Saturday evening, Oct. 16. Up until this time I was of the impression that my nursing sisters were to come with me on the ship, but on arriving at Devonport I found that no provision had been made for them, and after hunting around I managed to secure the information that the probable intention was to send them after us in a hospital ship. During the voyage we were blessed with particularly fine weather. We touched at Gibraltar, then went into Malta for orders, where we remained for five days, and were then sent on to Alexandria, Egypt. Again we had to unload all our equipment and personnel from the boat, the former being piled on the docks, while the men were allotted to a rest camp on the outskirts of the city, the officers being billeted in various hotels. Knowing that the headquarters for all operations in the Mediterranean was likely to be situated here, I made enquiries and found where the chief medical officer of the whole force had his office. I took occasion to call on him as soon as possible, and found him, fortunately, to be one of the most capable English offi-

cers with whom I have had to deal. We went into the whole subject of the unit, its field of usefulness, and he is the first man I have met since leaving home who seemed to appreciate and welcome what the University has sent out for service. He at once arranged that we should proceed to Saloniki by a hospital ship, and in a day or two we were ordered to reship our equipment and embark on one of the Castle liners acting in that capacity. He also got the wires busy for me and located my nursing staff, who in the meantime had been flying all over the Mediterranean and Ægean Sea in another hospital ship. He issued orders for them to be taken from the boat on his return to Malta, and this was done. He also accompanied us to this point, and from my first introduction to him has done everything in his power to help us to get away to a good start.

Landed at Saloniki.

"We landed on Wednesday afternoon, the 10th of November, and immediately proceeded to the camp site that had been allotted to us on the main Monastir road, about four and a half or five miles from the city. We were the first general hospital to arrive on the ground, and consequently have got what I think is by far the choicest location available. The local base officers, with whom we have to deal, found it necessary to ask us to receive patients the day we arrived, so we admitted about 40 on Thursday night, and the stream has kept up ever since. You can imagine what this meant. Pitching the canvas, unpacking the goods, equipping every tent and bed, was no small matter; but it was done with so much enthusiasm and cheerfulness that at the end of five days we had practically the whole of our canvas up and equipped. In three days we had 250 patients, and at the end of the week we were up to what has been our average ever since, viz., 450 to 650. To-day about the latter number are occupying our beds. The ordinary routine of general hospital work has been carried on from the outset without a hitch, and our daily admissions vary from 40 to 50, to, on one day, over 200, and the discharges to duty and to the hospital ships average from 30 to 70 or 80; so you see we are getting at once into the constant grind which it will be from now on as long as the hospital is established, taking the patients in one door, sorting them out, administering to all their needs, sending to the hospital ships those cases that are suitable and must be returned, and holding for treatment those who will be available for duty within a reasonable length of time.

Re-united At Last.

"My dear Dean, I cannot tell you how glad we are to be at this work as a unit. Can you realize that this is the first time since we stepped off the boat in Plymouth harbor, the end of May last, that all the members of this unit have been together, and that this is the first opportunity we have had of working as a unit? This fact, in itself, is very gratifying, and it is enhanced by the feeling that we are on the ground floor here so far as future work is concerned. Goodness knows what the future has in store along the line of military development, but it looks now as though this were going to be a busy spot, and if anything turns up we are sure going to be in the midst of it and have our fondest hopes realized regarding the quality and quantity of the work that is to come to us, and the unit will have a chance to show the scope of its possibilities. Up to date we seem to have created more than a favorable impression on the minds of all the staff officers here, and as a result we have no difficulty in securing their co-operation and help in anything they can do to make the settling down process run as smoothly as possible. Of course, even at best, things are pretty rough just now. We are living in tents, and if you could look out to-day or could have been here yesterday and lived through the rain first, then the wind, and to-day the snow and sleet, and waded through mud above your ankles, you would perhaps realize that we are not running a Toronto General Hospital nor sleeping in a bed of roses.

It Is Women's Work.

"As soon as I knew that I could look after the girls, I asked the general to send them along. Sixteen of them arrived about ten days ago, and the remainder on Tuesday last. They are in excellent health, with the exception of one or two who are bad sailors and show the effects of a rough passage which they had from Malta. They at once went on duty in the wards, and, believe me, it was a joy to have them. The men are all right in their place, but I am firmly convinced that their place is not in the wards looking after sick men. No one can do that like the nurses. We have them housed in big Indian-pattern tents, with double walls, each of which accommodates four very nicely, and they all seem to be very comfortable and contented. Everyone is pitching into the work as though their lives depended upon it, and they are certainly looking after all the men who come in in a way that I am sure would compare favorably with your standard in the T. G. H. At any rate, we are doing everything under the sun that we can for

everyone who comes in, and trying to send them out better, if possible, and, if not happy, contented and satisfied that we have done everything that lies in our power for them.

"Our greatest need at the present time is an adequate water supply. At present everything is delivered in water carts, and has to be hauled from a well about three miles away. This means that the supply is always limited, and sometimes we are decidedly short. We are chlorinating and boiling all that we use, and, believe me, I do not know what the real taste of food is now. Everything is permeated with the flavor of chlorine, some days much worse than others, but it is surprising what you can get accustomed to when you have to.

Need Supplies.

"About the cases, motor-lorry, ambulance, etc., that you are sending out to us, I hope the authorities in England will forward them right along, as they will be particularly useful. We are just beginning to find out what our needs are going to be, and judging by the present weather we are going to need lots of comforts, especially warm clothing, mitts, socks and such things.

"The weather during the past few days has been exceptionally cold. The ground is at present covered with snow, and this is accompanied by a high wind, which makes it very difficult to keep the patients, let alone the nursing staff, in anything like approaching a degree of comfortable warmth. . . . We are informed that the present weather is exceptionally severe for this time of the year and that we must expect some severe conditions during January and February, but I fancy you can count on it that the weather will be something like our December or March at home. At any time since we have been here the nights have always been very cold, the temperature commencing to drop about 3 p.m. and remaining down until the sun has been up for two or three hours in the morning. In the summer I believe it goes to the opposite extreme and becomes very hot and dry, so that we will have to prepare for practically all conditions. Fortunately the officers and nursing sisters were provided with rubber boots during the past few days or we would have suffered considerable inconvenience from wet feet, etc. The men have to endure a good deal of discomfort, and I tried, unsuccessfully, to secure for their use a supply of rubber boots from the authorities here. Failing in this, I was able to get them an issue of the very heavy, coarse English military boots, which has helped matters considerably for the time being.

"The operative work is at a standstill for the present time on account of our inability to raise the temperature of the operating tent above 35 to 40 degrees, but until a couple of days ago we were able to manage fairly well, and we hope that the present severe conditions will abate a little and let us carry on that branch of the work.

Christmas Comforts.

"A thousand thanks on behalf of myself and the unit for your suggestion in cable re Christmas comforts. They will certainly be much appreciated, and we will all get our heads together and decide what will be the best course to pursue in expending the sum named.

"We have got our mess working, but under rather rough conditions; a cook-house in the form of trench kitchens, etc., and mess for officers and nurses in big marquees. It is not very easy for the men to work under these conditions and serve things as they are capable of serving them, but they are really doing wonderfully well and we are all making the best of it. There is one bright aspect to the present conditions, and that is this—the authorities have decided to make this a hut hospital. The engineering department have surveyed the grounds for the huts and are sending a working party out to put in the permanent foundation immediately. The huts themselves are being shipped here in sections, and I understand are due to arrive at any time. The director of works promised me, two days ago, that he could have all the buildings erected within one month after the arrival of the parts, but I think that is a promise which it will be pretty difficult for him to realize if I can judge from the speed with which a good many of their other enterprises are carried out. However, if they will put up the ones most immediately needed, according to our directions, we can worry along then without holding them to the time limit of a month. This state of affairs will be a great boon to all of us, and will make life worth living, especially for my nursing sisters."

Dominion Medical Monthly

And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH

A Department of Public Health for the Dominion of Canada has again been debated, tentatively, in the House of Commons. Of course it was sidetracked as usual. This time, owing to the regrettable injury sustained by the Hon. Mr. Burrell, in the Parliament Building fire, it could not be discussed in detail, nor fully. As is well known, the Director-General of Public Health comes under the supervision of the Honourable the Minister of Agriculture. It is equally well known, however, that there are some six or seven other departments of state which have to do in some measure with health matters throughout the length and breadth of the Dominion.

The Canadian Medical Association conceived of a separate Department of Public Health for the Dominion as far back as 1902—fourteen years ago. Although from time to time, possibly every two or three years, special deputations from that Association have urged the matter upon the attention of Governments, absolutely no advance whatsoever has been made; and the Government of the day is no more seized of the practicability of unifying the various branches of the Departments having to do with health matters, under one responsible Department, than the Government of fourteen years ago. It continues to hang fire.

Now there must be a reason for this. Either the Canadian

Medical Association has not gone about this matter in the right way, or some interests must block the scheme.

When one recalls the long representations made to the different and respective Governments of Canada by the Canadian Medical Association relative to a Dominion Medical Council and Dominion Registration, we light upon a reason for failure in regard to the Department of Public Health. The Canadian Medical Association made the matter of Dominion Registration almost a life work of Sir Thomas Roddick, which was finally consummated through persistent and very faithful work on the part of that gentleman. There never appeared to the medical profession, as represented by the Canadian Medical Association, any valid reason for the continued delays in enacting legislation looking to that end. It was the usual dilatoriness regarding all matters of public health, which affected Government after Government, and which was only finally and completely overcome by the skill, determination, and complete grasp of the entire situation by one man holding a brief for the profession at large. If the Canadian Medical Association will take that as their cue, and place the matter of a Department of Public Health for the Dominion of Canada in the hands of some one member of the profession, who will make it a life study and a life work, such as Sir Thomas did, then it might be expected something tangible would be accomplished at no very distant date.

Are there some personal, selfish reasons standing in the way of a Department of Public Health for Canada? Has the question of party patronage anything to do with it? It is altogether likely that the Departments, under which some of the public health services are now administered, hesitate to relinquish those services to another Department. If the deputy heads are the obstacle in the path to a most righteous reform in the interests of the people, and which is fathered and promoted by those least likely to profit thereby—the profession of medicine—all the more reason why the advance should be made in that direction. What use interviewing Premiers and Cabinet Ministers, if the key to the situation is held by the deputy heads!

Of what use are discussions in the House of Commons by even members of the medical profession, who for the time being chance to have seats in that chamber! Members come and members go and the question is shifted from the old to the new. What is wanted is a "big" man, forceful, energetic, well-seized of the situation, with the time and the money at his disposal, untrammelled by associates—and the Canadian Medical Association should get that man.

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THERAPEUTIC NOTES

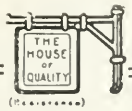
PRURITUS

In the *New York Medical Journal* of September 4, 1915, Cunningham points out that remedies for itching are frequently entirely different from remedies for the disease that causes the itching. Very often they will not cure the disease; but the cure of the disease will naturally cure the itching. The writer is often put to it to devise ways and means to check the itching while he is attempting the slower process of removing the cause. The method adopted will vary with the character of the provocation.

In senile pruritus he is confronted with a cause that cannot be removed. Palliation is the only resource, and it is for the most part utterly unsatisfactory. The skin is dry and keratotic. This nutritional disturbance is reflected in the terminal nerves. It is universal, although it may be especially distressing in hypersensitive locations. Against this implacable embitterer of the evening of life all the legions of anti-pruritics have been flung in vain—a fair test of the actual worth of any of them in the face of an ineradicable cause. So insignificant are their effects that we are forced to resort to nerve benumbing agents administered by mouth. Even the full relief from these is frequently denied us because the patients are at the time of life when such drugs are badly borne. Cannabis indica, gelsemium, and the coal-tar preparations are employed with extreme caution. Their danger "makes us rather bear those ills we have than fly to others that we know not of."

An acute eczema would naturally be managed in a different manner from a chronic eczema: an urticaria from a dermatitis herpetiformis; a lichen from a spinal reflex. It will not do to slap carbolic acid on the lot and let it go at that. Nowhere in the whole range of applied therapeutics is it more clearly shown that "one man's meat is another man's poison" than in the application of remedies to the skin. A dry skin will call for different measures from an oozing one, a thickened skin from a thinned one, a hyperesthetic skin from one of normal sensibility, the skin of the normally constructed individual from that of the fussy, fidgety, introspective *ego ipse* hypochondriac.

Some of these separated considerations naturally and necessarily overlap. Some reference has already been made to remedies. The sovereign remedy in every pathological condition is the



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removal of the cause. The remedy for the inflammation from a foreign body in the eye is not an eye-wash, but the extraction of the foreign body. The remedy for the pain of a fractured leg is the realignment of the fragments that are poked into the surrounding tissues. The remedy for an itching dermatosis is the cure of the dermatosis. This is practicable sometimes, as in urticaria where an active cathartic eliminates the toxins from the intestinal tract; as in trade eczema when the patient can be made to stop the handling of irritating materials: as in lichen planus where the bold administration of bichloride of mercury will speedily influence the eruption. Where for physical or economic reasons the cause is irremovable, palliation must be attempted. There are such causes. Senility is one. Organic disease of the liver exciting pruritus ani is another. The fact that a man must eat even if he itches is another. Men cannot forsake their accustomed toil at will even to escape this evil. The dyer must dye, for it is the only way he has of living. When after a consideration of all the circumstances, we are driven to the necessity of attacking the symptom irrespective of its origin, what shall be the order of our going? First disabuse the mind of all illusions regarding the potentiality of all the warmly advocated antipruritics. Do not be unbalanced by a name, either of a man or of his remedy. Think out the individual case before one and attack it on a commonsense basis. It is true that one must be guided in some degree by the experience of others, as life is too short to learn everything at first hand. But one can digest the evidence they adduce; one can analyze it and try it by the fire of his own intelligence. If so many different things control itching on some occasions and fail on others, the rational inference is that (the testimony of the witnesses being unimpeachable) there must be some point of divergence between the methods making for and against success. This brings the writer to the last item in his summary.

We are agreed that the patient has been carefully studied with regard to his peculiarities, the character of his ailment, and the feasibility of removing the exciting cause, and that we are compelled to resort to the antipruritics in order to accord him a measure of relief. How shall we employ the agents that we may select? It is safe to say that if carbolic acid frequently fails, its actual antipruritic value must be low. Its success must be attributed to the combinations in which it is made up, and the thoroughness with which these are applied. These combinations are mull, pastes, salves, powders, and heavy lotions. Thoroughly

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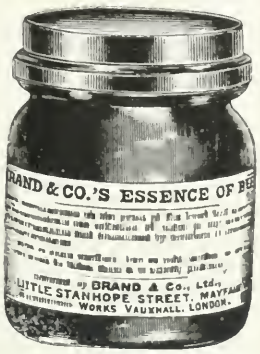

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applied, these afford protection from air, moisture, and accidental contacts. That is the secret of success in treating pruritus. That is the explanation of the success of so many different agents in the hands of so many different investigators. It is probable that any non-irritating substance carefully applied would have yielded the same results. The odoriferous element gets the credit, but it was the liberal use of the protecting mass that actually achieved the result. This, too, explains why hospital cases do better than private cases, and why private patients who are followed up do better than dispensary patients who use their remedies in a slipshod, careless, and incomplete manner. How often has the writer seen plain olive oil afford relief unobtainable by more elaborate medication! How dependable has he found compound wool-fat ointment, made up of nothing but boroglycerine, wool-fat, and petrolatum! How surprising has been the response to stearate of zinc, which gives an unctuous coating to the supersensitive skin and excludes air, moisture, and friction! A trial may be made of any of the so-called active agents high in favor among dermatologists, and it will be speedily ascertained that, the menstruum being liberally applied, the results will be entirely different from those of a meagre application. And this will not be because more of the active agent is used (for the proportion remains the same in an ounce or a ton), but because one protects the parts with a bland buffer.

The action of lotions would seem, at first glance, to controvert the position assumed above. They are moist and do not exclude the air and do not protect the part to any great degree. Granted! But they act on the principle of refrigeration when they are clear, and upon the principle of refrigeration and the deposition of a protecting powder when they are heavy. Calamine and zinc lotion leaves an evenly distributed bland powder over the surface after the rose-water evaporates. The English augment the effectiveness of this formula by adding oil and styling it calamine and zinc liniment. It is a matter of nice discrimination when the lotion or the powder or the salve is most advantageous. If it cannot be determined in advance, it can be by a little careful experimentation. But always should it be remembered that the application must be generous.—*Therapeutic Gazette.*

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News Items

Drs. Wallace Scott, Alex. J. McKenzie and Bryce McMurrich, Toronto, are attached to Moore Barracks, Shorncliffe.

The Western University, London, Ont., is offering the Militia Department a complete field hospital for overseas service.

President Braithwaite, of Western University, offered to the Government, in behalf of the institution, a complete field hospital staff for overseas service.

Since Dr. Alfred Haywood left with the Third Battalion as its Medical Officer the post has been held by Dr. F. O'Connor, Dr. Lewis and Dr. Charles Clarke.

The fifth annual conference of the Ontario Health Officers' Association will be held in Convocation Hall, University of Toronto, May 30th and 31st, 1916.

Dr. Harry D. Johnson, Charlottetown, is appointed officer commanding the Canadian Medical Services Special Hospital for Rheumatism at Buxton, Derbyshire, England.

A home for convaleseent Canadian soldiers, which is being equipped at Kingswood, near the Crystal Palace, will be opened for patients at the end of this month. It is voluntarily maintained by the staffs, directors and shareholders of the Massey-Harris Company.

It is provided in one section of the bill that any person who sells publicly or privately any of the biological products offered by the Board shall incur a penalty of $100, and in default of payment shall be liable to imprisonment for a period of three months.

The Militia Department has confirmed the appointment of five more officers of the 206th French-Canadian Battalion, commanded by Lieut.-Col. T. Pagneulo. They are: Major P. Edmond, second in command; Major J. B. E. Normandean, Lieuts. L. Lesperance, W. P. Bluteau and J. C. Belanger.

On the recommendation of the Superintendent, Dean C. K. Clarke, the Board of Governors of the General Hospital have appointed as Assistant Superintendent Dr. Howard Black, who

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has been a house surgeon in the institution for the past year. The vacancy was created by the departure of Dr. Charles Clarke for Boston to take further post-graduate work.

The Aesculapian Club closed a successful season, March 9th, when the Reverend Chancellor Burwash and Dr. W. H. Ellis recited reminiscences of the Fenian Raid. The following officers were elected: President, Dr. Charles J. Hastings; Vice-President, Dr. Wm. Goldie; Secretary, Dr. George Elliott; Treasurer, Dr. Edmund E. King; Executive Committee: Drs. F. A. Cleland, F. Arnold Clarkson, Samuel Johnston, A. B. Wright.

Lieut.-Col. J. Alex. Hutchison, M.D., who was recently appointed Chairman of the Pensions Medical Board, has left for England on instructions from Ottawa, and will probably take command of one of the Canadian Hospitals now on service. Dr. Hutchison is one of the leading surgeons of the city and is professor of surgery at McGill University, from which he was graduated in 1884. He is also chief medical adviser for the Grand Trunk Railway System.

On the evening of the 7th of March, Dr. W. H. B. Aikins, President of the Academy of Medicine, Toronto, entertained at dinner in the York Club, in honor of the guest of the evening, Professor Fordyce, of New York. Amongst others present were His Honor the Lieutenant-Governor Sir John Hendrie, Honorable Dr. Jamieson, Speaker of the Legislature; Dr. R. A. Reeve, Dr. J. Algernon Temple and many members of the Academy of Medicine. Afterwards the company adjourned to the Mining Building, where Dr. Fordyce gave one of the finest illustrated lectures ever delivered in Toronto, on the pathology and treatment of syphilis.

According to statistics prepared for the forthcoming 1917 McGill Annual, 132 members of the year 1917 are on active service with the Allied forces. They are in all branches of the service. Infantry, Artillery, Medical Services, Signal Companies, Railway Construction Corps, Army Service Corps, Royal Flying Corps, Royal Naval Air Service, etc. They are not confined to the Canadian forces, but are to be found in the British and French as well. Three have been killed in action, one has been awarded the Victoria Cross and one the Military Cross. Work is proceeding on the compilation of the Annual, and it is expected that it will be issued next month.

Dominion Medical Monthly
And Ontario Medical Journal
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Original Articles

THE PHYSICIAN IN INDUSTRY

By Magnus W. Alexander.

In the early history of medical work in industry the regular employment of a physician in an industrial establishment was usually considered an evidence of a largely benevolent attitude on the part of the employer. Whether or not this assumption was true, the results showed that the work of the physician in industry proved beneficial to the employer as well as to the employee, by protecting both against undue expense arising out of injury and sickness and by promoting a better mutual relationship. The results also proved that medical supervision of employees increased their efficiency, and that prompt medical and surgical treatment of injured and sick employees prolonged their lives and the period of their industrial usefulness. As these advantages became known among employers, medical supervision of employees was introduced into many plants, particularly into establishments where large numbers of workmen were employed.

The great value of the physician in industry became even more generally realized when workmen's compensation laws went into effect, which compelled the employer to shoulder the expense of injuries to employees regardless of the fault of either party. These laws forced the employer, in self-defence, not only to provide adequate medical and surgical treatment for employees injured in his establishment, but also to exert all reasonable effort for the prevention of future accidental injuries and for the elimination of working conditions that might prove harmful to the health of his employees. Experience, however, had shown that physique, temperament and general physical condition of employees affected to a large extent their liability to sickness or injury. Some men could safely do work that constantly required considerable physical effort, while the same work would cause discomfort and strain to

other apparently strong men. Employees with defective vision would suffer headache while doing work that required close application of their eyesight, while others with normal vision would naturally have no such trouble when similarly engaged. Contact with certain odors or liquors used in manufacturing processes would cause skin irritation or other disturbances to one person, while hundreds of others working under exactly the same conditions would be entirely unaffected.

These experiences naturally led the employer toward a study of the physical condition of his employees, in order to direct each of them into that kind of employment for which he would seem best suited by virtue of his physical fitness as well as his experience and skill; and *vice versa,* to divert him from an employment that might prove injurious to his health and safety. In order to pursue this course intelligently, physical examination of all prospective employees and periodical re-examination of all persons already employed became necessary. It is obvious that only a competent physician should be assigned to this task.

Aside from looking after the health of individual employees, the physician in industry also renders a valuable service by bringing to light those general conditions of employment that may adversely affect the health and comfort of all workmen in common. Many of these conditions would otherwise remain concealed and unremedied because their ill effects are of such gradual development that the lay executive or employee might not be able to detect their presence nor locate their source. By his co-operation with the employer and foremen in securing wholesome ventilation and proper lighting conditions, and by inducing employees, by personal advice or through suitable literature, to adopt healthful habits in the shop and home, the physician brings into play simple, far-reaching measures that tend to raise the health and therefore the efficiency standard of the entire working force.

The Training of First-aid Men.

The physician also finds specific functions to perform, such as the training of an adequate number of persons in each employment, so that they can themselves as laymen effectively treat slight wounds that do not demand a physician's service, or give temporary assistance in cases of serious injuries that need emergency attention pending a physician's arrival. The presence of such a body of trained first-aid men is so much the more important when the industrial establishment is located at a considerable distance from

the physician's office or dispensary, or when injuries occur when a physician is not immediately available.

With these many advantages in mind it is obvious that the physician has come into industry to stay. In a large plant he becomes part of the organization and devotes his entire time and effort to the welfare of its employees, while in smaller plants or in those where the work is practically free from hazard, he spends only a part of the day in the medical care of employees, or he combines a number of such plants under his medical supervision. Apart from the medical aspect, however, enlightened employers are beginning to see quite clearly the value of a physician as a staff member. They have learned to appreciate that his peculiar relationship to employees as a friendly medical advisor enables him to exert a wholesome influence upon their mental attitude as well as upon their physical welfare. It should therefore not be surprising to find in future physicians regularly attached to the organization of even small plants, where the medical supervision of employees alone would not be a task large enough to warrant the full-time employment of a medical expert, but where his spare time may be used effectively in assisting the management in the general supervision of employees.

Special Tasks and Problems.

The physician in industrial practice encounters a great many tasks and problems that do not arise ordinarily in private practice. He often finds himself dealing with a great number of people whose needs must be met promptly, effectively and with a minimum expenditure of time. Many of these are unfamiliar with the English language and are unable to make their needs and wishes understood or to understand the inquiries and directions of the physician who speaks English only; others are mentally backward and difficult to deal with on that account. Some are unclean and careless in their personal habits, thereby causing their wounds or ailments to improve only very slowly even under the best of care, while others have a generally antagonistic attitude. Some are even dishonest and try to conceal or falsify the real cause of an injury; they would rather feign inability to work and secure part pay while loafing, than perform honest work and gain full wages. Moreover, there are those who themselves believe or by some doctors are led to believe, that they are seriously injured and incapacitated for work when they are not. Yet the physician in industry must patiently and persistently cope with all these con-

ditions in his endeavor to cure these people of their physical ailments and to disabuse them of their mental illusions.

The question of where the physician in industry should terminate his care of injured or sick employees and at what point an employee's private physician should assume such responsibility, is another problem that must be solved in a satisfactory way. What duties to delegate or not to delegate to the nurse employed in the establishment under his supervision; what instructions to give and what materials to furnish to laymen authorized to render first aid or emergency treatment to injured employees throughout the plant; how best to render some industrial operations free from the hazard of occupational disease, or how to protect workmen against such hazards if they cannot be eliminated, are questions that he is called on to answer in an intelligent and practical manner.

In the solution of these and similar problems the physician in industry often finds himself in a quandary. Previous training and experience had made no specific provision for their solution; in fact, many of these problems have but recently become recognized. In most cases the physician in industry has been obliged to find an answer to each problem practically alone and as best he could. Sometimes he has hit on a method that was only partially satisfactory; sometimes he has achieved results that were all that could be desired, while at other times he has failed in his aim. Occasionally, through a comparison of conditions and an interchange of experiences, physicians connected with industrial enterprises would reach common conclusions that would point to simple and practical remedies. The value of such informal conferences naturally led to a desire for a more systematic interchange of ideas extended over a larger group of physicians dealing with medical problems in industry.

The Conference Board of Physicians.

A preliminary meeting of physicians engaged in industrial practice held in New York City on April 4th, 1914, indicated that their varied knowledge and experience could be so combined and harmonized as to afford composite and definite conclusions that would be valuable to themselves and to the industries they represent. It was also felt that the findings could advantageously be made available to all physicians in industry to the end that employers and employees generally might reap benefit therefrom. The concrete outcome of this meeting was the organization of a "Conference Board of Physicians in Industrial Practice," the scope and work of which is embodied in the official declaration that

"The Conference Board of Physicians in Industrial Practice is organized for co-operative effort in introducing into industrial establishments the most effective measures for the treatment of injuries or ailments of employees; for promoting sanitary conditions in workshops; and for prevention of industrial diseases."

In launching this movement, the Conference Board on Safety and Sanitation* has been a helpful factor, and the two Conference Boards have since been working in close, harmonious relationship; that of business executive looking for professional advice in safe-guarding the health of employees, and that of physicians offering medical judgment as the result of combined study and experience.

It was thought desirable to bring together at first only a relatively small number of medical officers of corporations, so as to facilitate their work and give their discussions a more intimate character. In order to insure regular attendance at the meetings, only corporations in the eastern section of the country were asked to join the Conference Board through their respective medical officers, but industrial representation was diversified as far as practicable. The physicians now constituting the Board are all men of wide experience in their respective fields, who have gained a thorough understanding of the requirements of industry from the humane viewpoint and of the physicial ability of men and women generally to meet these requirements. They are also familiar with the personal habits and the living and working conditions of people engaged in industry, and are therefore particularly competent to handle medical problems in industry.

Dr. John J. Moorhead, of New York City, the Chief Medical Officer of the Interborough Rapid Transit Company and the New York Railways Company, is Chairman of the Conference Board, and M. W. Alexander, of the General Electric Company, West Lynn, Mass., is the Executive Secretary. The present members of the Board are: Dr. T. John Bowes, Philadelphia Electric Co., Philadelphia, Pa.; Dr. C. C. Burlingame, Cheney Brothers, South Manchester, Conn.; Dr. W. Irving Clark, Norton Company, Worcester, Mass.; Dr. Royal S. Copeland, Consolidated Gas Co., New York City; Dr. G. M. Dorrance, Joseph Campbell Co., Camden, N.J.; Dr. E. H. Hanna, Cadillac Motor Car Co., Detroit, Mich.; Dr. G. L. Howe, Eastman Kodak Co., Rochester, N.Y.; Dr. W. G. Hudson, E. I. duPont DeNemours Powder Co., Wilmington, Del.; Dr. J. A. Jackson, New York Edison Co., New

*The Conference Board on Safety and Sanitation is composed of national associations of employers, such as the National Founders' Association, the National Association of Manufacturers, the National Metal Trades Association, and the National Electric Light Association, who have pooled their efforts for industrial safety and sanitation.

York City; Dr. Chas. A. Lauffer, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.; Dr. Frederick W. Loughran, Medical Advisor, State Insurance Fund, New York City; Dr. D. B. Lowe, B. F. Goodrich Co., Akron, Ohio; Dr. John W. Luther, The New Jersey Zinc Co., New York City; Dr. A. C. Marshall, Powers-Weightman-Rosengarten Co., Philadelphia, Pa.; Dr. J. D. McGowan, Commonwealth Edison Co., Chicago, Ill.; Dr. John J. Moorhead, Interborough Rapid Transit Co., and New York Railways Co., New York City; Dr. Francis D. Patterson, Harrison Bros. & Co., Inc., The J. G. Brill Co., Electric Storage Battery Co., Philadelphia, Pa.; Dr. W. E. Ramsay, The American Smelting & Refining Co., Raritan Copper Works, Barbor Asphalt Paving Co., Perth Amboy, N.J.; Dr. L. M. Ryan, Hudson & Manhattan R. R. Co., The Foundation Co. of N. Y., New York City; Dr. F. E. Schubmehl, General Electric Co., West Lynn, Mass.; Dr. John Woodman, New York Edison Co., New York City; Dr. Randall Zimmerman, Westinghouse Air Brake Co., Wilmerding, Pennsylvania.

The companies represented by these physicians employ over 250,000 men and women, skilled and unskilled, of many languages and nationalities, and working both indoors and out in greatly diversified occupations.

The Board meets periodically. So far eight meetings have been held and some important results have already been achieved; much other work of far-reaching character is now under consideration. The individual members of the Board are actively cooperating in the prosecution of research work in respect to special problems which can be studied best in the particular industry with which they are connected. The results of individual investigations, however, are referred to the Board for broad consideration and joint action.

Instructions to Laymen for First Aid.

One of the first tasks assumed by the Board was the development of "Instructions to Laymen for First Aid Treatment of Common Injuries and Disorders." It was the intention to issue instructions of such simple character that they could readily be followed by the ordinary man without even an elementary foundation of first aid knowledge. The instructions agreed upon by the Board are concise and pertinent; they stipulate what the laymen should do, without wasting any words in stating the reasons for so doing. In an emergency treatment, loss of time by reading irrelevant matter may prove of serious consequence. The remedies

referred to in the instructions are few, simple and inexpensive and can be administered by laymen without danger of any harm. All medicaments, bandages and other materials needed in carrying out the instructions are readily obtainable in drug stores. The first aid instructions promulgated by the Board have been widely accepted; they have also been reprinted in numerous technical journals in the United States and in other countries.

The Board also co-operated in a very practical way with the Conference Board on Safety and Sanitation in the development of the "*N. A. S. O. Standard First Aid Jar,*" a compact, sanitary and convenient first aid outfit consisting of a dust-proof glass jar in which first aid materials are contained in well ordered arrangement. The first aid instructions are printed on the inside of the glass jar cover and are therefore always at hand when needed. These first aid jars have been made readily available to employers and are now being used extensively in industrial establishments, in public institutions and private homes.

Physical Examination in Industry.

The next work of importance undertaken by the Board was the determination of the essential requirements of "*Physical Examination*" in industry generally. This subject was given careful study with a view of arriving at a standard of minimum requirements and records which could be used in connection with practically all employments, or with such additions as the nature of a special employment would necessitate. The conclusions reached were based on extensive observation and experience in industry, through which it had been learned what physical ailments and what degree of such ailments would interfere with the well-being, efficiency and safety of the employees at work. The Board agreed upon the various defects requiring attention in physical examinations, and the various degrees of such defects, on the basis of which the suitability of an individual for a specific employment can be determined. The Board also standardized a "*Physical Examination Record Card*" of convenient size and so arranged that a sufficiently clear and comprehensive record can be made with a minimum amount of clerical work. These record cards have already been used in thousands of cases with entire satisfaction.

The Board gave special attention to methods of "*Artificial Respiration*" of persons rendered unconscious by electric shock or by asphyxiation from water, smoke or gas. The Board expressed itself unanimously in favor of the manual prone pressure method by persons specially instructed therein, but it also agreed

that when mechanical devices for artificial respiration are used they should be used principally as auxiliary means and then only by specially instructed laymen or physicians.

Realizing that all efforts for sanitary conditions in workshops and for clean personal habits of persons while at work would be brought to naught if the persons themselves would not make similar efforts in respect to their homes and their personal habits outside the workshop, the Board decided to prepare a set of "*Health Hints*" of prophylactic character, written in simple, concise and direct language, so that they can be readily understood by the average person. The Care of the Teeth, the Care of the Eyes, the Healing of Wounds, the Value of Proper Breathing, the Danger of Promiscuous Spitting, the Cause of Headache and of Kidney Trouble; these are some of the subjects on which the Board has prepared statements which are intended to be printed, each on a separate leaflet, for wide distribution among employees generally.

Study of Occupational Diseases.

The Conference Board has also entered into a careful study of diseases peculiar to certain occupations, with a view of learning the most effective treatment of such diseases and the best methods of reducing or entirely eliminating their causes. Some members of the Board who are connected with industrial establishments in which the nature of the work or the materials used are apt to cause such diseases, have become experts by special study and extended experience in this field of medical practice. With their assistance and with the help of other invited experts in this field the Board is proceeding cautiously and painstakingly in the study of "*Occupational Diseases*," and expects, in due time, to arrive at and publish definite conclusions.

Another important phase of the work of the Board is the exchange of specific experiences by the members as they encounter special situations in industry, or as they come in practical contact with the administration of workmen's compensation laws. Many of the corporations represented on the Board through their respective medical officers are operating in several States and are therefore subject to more or less widely different workmen's compensation laws and health regulations. The necessity for uniformity in statutory provisions and in their interpretation has therefore been pertinently brought home to the Board and has convinced it of the desirability and need of a standardized nomenclature and definition of medical terms as they relate to industrial work. The Board realizes that progress along these lines will be slow, but it

believes that substantial progress can be made by thorough investigation along broad lines and by close application to the task.

The Conference Board of Physicians in Industrial Practice is unique in character and in method of work. It is a voluntary association of a small number of men engaged in the same field of professional work, who meet in periodic conferences of the most informal character, unfettered by any restricting rules and regulations or by any obligation to abide in their individual work by the conclusions of the Board. Yet the common purpose which brings these physicians together and the absence of such restrictive regulations, has resulted in a most helpful co-operative effort. The work of the Board members, while strictly governed by professional ethics and scientific principles, is given a most pronounced practical aspect from the fact that these physicians in industry have acquired by the nature of their work an industrial viewpoint and understanding that establishes the proper balance between what should be abstractly striven for and what can be correctly accomplished under actual working conditions.

THE ONTARIO MEDICAL ASSOCIATION

The Ontario Medical Association will hold its Annual Meeting in Toronto, beginning Wednesday, May 31st, 1916, for three days, in the Medical Building, Queen's Park.

The following is the programme:

Wednesday, May 21st.

9.00 a.m.—Registration.

10.00 a.m.—Business Session.

12.00 a.m.—An Organ Recital—Convocation Hall.

2.00 p.m.—General Session.

"Drugs and Medicinal Agents Considered from the Professional, Economic and National Standpoints," by Prof. A. D. Blackader, Montreal.

Address in Gynecology, by Dr. J. F. Percy, Galesburg, Ill. Subject: "Heat Problems, or the Method of Treatment in Cases of Inoperable Uterine Carcinoma."

"Tonsillectomy, with its General Results," by Dr. Justus Matthews, Mayo Clinic, Rochester, Minn.

Election of the Nominating Committee.

In the evening at eight: President's Address, by Dr. H. B. Anderson.

8.45 p.m.—The Address in Medicine, by Dr. Elliott P. Joslin, Boston. Subject: "The Treatment of Diabetes."

On Thursday, June 1st, from nine to twelve o'clock, the Sections in Medicine, Surgery, Obstetrics, and Ear, Eye, Nose and Throat will meet.

Programme in Medicine:

"Pernicious Anemia," by Dr. Charles McKay, Seaforth.

"Radium as an Auxiliary in the Treatment of Exophthalmic Goitre," by Dr. W. H. B. Aikins, Toronto.

"Indications for and Results of Artificial Pneumothorax in Phthisis," by Dr. C. D. Parfitt, Gravenhurst.

"Duodenal Feeding with Tube," by Dr. Cleaver, New York.

"Treatment of Constipation," by Dr. Campbell, Napanee.

"Treatment of Lues in Children," by Dr. George Smith, Toronto.

"Arterial Hypertension," by Dr. Boyce, Kingston.

"Wassermann Reaction in Relation to Diagnosis and Treatment of Syphilis," by Dr. Hugh Laidlaw, Kingston.

"Protozoan Infections," by Dr. L. G. Pearce, Brantford.

"Syphilis with New Arsenical Preparations," by Dr. Gordon Bates, Toronto.

Programme in Surgery:

"Appendicitis," by Dr. M. O. Klotz, Ottawa.

"Gall-Stones," by Dr. I. Olmstead, Hamilton.

"Pyloric Stenosis in Infants," by Dr. W. E. Gallie, Toronto.

"Fractures, including Compound," by Dr. Seaborn, London, and Dr. J. M. Rogers, Ingersoll. Discussion opened by Dr. T. H. Middleboro, Owen Sound.

"Intestinal Obstruction," by Dr. H. A. Bruce, Toronto.

"Renal Calculi," by Dr. W. W. Jones, Toronto.

"Conservative Surgery in Injuries of the Hand," by Dr. N. A. Powell, Toronto.

"Transfusion," by Dr. F. N. G. Starr, Toronto.

"Perforating Ulcer of the Stomach," by Dr. McGregor, Hamilton.

"Treatment of Cancer by Fulguration," by Dr. J. E. Hett, Berlin.

"The Relative Merits of the Steel Plate and Bone Graft in the Treatment of Recent Fractures," by Dr. E. R. Secord, Brantford.

"Pulmonary Abscess following Abdominal Operations," by Dr. Angus McLean, Detroit.

"Duodenal Ulcer," by Dr. A. H. Perfect, Toronto.

Programme in Gynecology and Obstetrics:

"Treatment of Dysmenorrhea," by Prof. William Weir, Cleveland.

"Morphine and Hyoscine in Obstetrics," by Dr. A. Kinnear, Toronto.

"Blood Transfusion in Hemorrhage of the New-Born," by Dr. Alan Brown, Toronto.

"Gelatine in Hemorrhage of the New-Born," by Doctor McIlwraith, Toronto.

"Apparatus Used in Blood Transfusion," by Doctor Unger, New York.

"The Female Pelvic Floor and the Part it Plays in Obstetrics and Gynecology," with moving pictures, by Professor T. H. Morgan, New York.

"Eclampsia," by Dr. J. F. Goodchild, Toronto.

"Diagnosis and Choice of Operations in Retrodisplacements," by Dr. A. C. Hendrick, Toronto.

"Persistent Occipito-Posterior Positions in Relation to the Country Practitioner," by Dr. Charles Page, Oakville.

"The Walcher-Position in Obstetrics," by Doctor Arthurs, Sudbury.

Programme in Section of Ear, Eye, Nose and Throat:

"Foreign Bodies in the Esophagus," with slides, by Dr. Edmund Boyd, Toronto.

"Treatment of the Blind After the War," by Dr. B. C. Bell, Brantford.

"Orthodontia in its Relation to the Nose and Throat," by Dr. G. W. Grieve, D.D.S.

"Nose, Throat and Accessory Sinuses in Relation to Systemic Diseases," by Dr. D. J. Gibb Wishart, Toronto.

Thursday afternoon: Address in Surgery by Prof. Dean Lewis, Chicago.

"Treatment of Pneumonia," by Prof. Solomon Solis Cohen, Philadelphia.

Business Meeting.

In the evening Dr. Weston A. Price, D.D.S., D.S.C., M.E., Cleveland, will give an address on "Mouth Infections and Some of the Mechanisms by which they Produce Localized and Systemic Diseases."

Prof. John Wyeth, Prof. John A. Bodine, and Prof. C. H. Chetwood will illustrate some operations by moving pictures.

On Friday afternoon there will be a Military Section in which subjects of interest to the Army Medical Corps will be discussed.

On Friday evening Prof. Stephen Leacock will give an address.

Industrial Medicine

NITRO-DERIVATIVES AND TOXIC JAUNDICE

The handling of nitro-explosives has long been known to be a risk to the health of the operatives concerned unless careful regulations are obeyed, and a recent event would seem to imply that a stricter control of the provisions of the Factory Act is desirable now that the number of persons employed in such work has been so largely increased. That, at all events, was the view of a coroner's inquiry held this week by Mr. Luxmoore Drew into the circumstances of a female worker's death after employment in a munitions factory. It can be well understood that certain details as to the exact nature of the chemical explosive to which the illness and death of the operative were traced, according to the evidence given by the attending practitioner and official medical experts, cannot be disclosed. It suffices for the present to record that the illness was caused by the handling of a powder which contained a proportion of a nitro-hydrocarbon. The case in its medical details recalls the instances of poisoning by "dope," the varnish used in waterproofing aeroplanes, the toxic action being due in that case to the tetrachlorethane used as a solvent in the varnish which set up a fatal jaundice. Tetrachlorethane, however, is a more or less volatile fluid, whereas contact with a powder in the case just reported appears to have produced similar toxic effects. There would obviously be much less difficulty in the removal of a vapor from the neighborhood of the operative than the removal of scattered particles of a powder. The case was diagnosed by Dr. H. P. Potter, and post-mortem appearances were described by Dr. B. H. Spilsbury, and Dr. T. M. Legge, H.M. Inspector of Factories, and the conclusion was that heart failure had supervened owing to a general process of degeneracy having been set up in the liver, heart, and kidneys by contact with a nitro-derivative. It was a case of toxic jaundice, as it has occurred in poisoning by "dope," and the body showed the typical pigmentation. The jury expressed their appreciation of the clearness of the medical evidence, and returned a verdict of "Death from misadventure," adding a recommendation that there should be fewer persons engaged together in a unit of space and that the provisions of the Factory and Workshop Acts should be rigidly enforced in such workshops. It may be remembered that in the *London Gazette* of October 12th,

1915, the Home Secretary gave notice of an Order under Section 73 (4) of the Factory and Workshop Act, 1901, applying the provisions of the said section to all cases of toxic jaundice occurring in a factory or workshop; the Order would apply to jaundice due to tetrachlorethane, to nitro or amido-derivatives of benzine, or, indeed, to any other poisonous substance.—*The Lancet.*

OCCUPATIONAL INJURIES DUE TO RADIUM

In the *Journal of the American Medical Association*, of Jan. 1st, Professor T. Ordway, of Albany Medical College, has described the effects observed during a year's radium work at the Huntington Hospital. Those who were applying radium in the treatment of patients noticed, after a few weeks, a slight though gradually increasing sensory disturbance in the finger-tips, particularly on the ulnar side of the first phalanx of the thumb and the radial side of the terminal phalanges of the index and middle fingers of each hand. These symptoms began insidiously and consisted of blunting of sensibility of the finger-tips, increased sensitiveness to heat and pressure, amounting at times to pain, and anesthesia of varying degrees. They were out of proportion to the objective changes, which consisted of flattening of the natural ridges on the affected fingers, with consequent changes in the finger prints, thickening of the horny layer of the epidermis with scaling, failure of the finger-tips to resume their normal shape after pressure, a sort of pitting and upgrowth of the cuticle at the base of and underneath the nails, which became extremely brittle and tended to stand off from the fingers. The assistants and nurses were warned of the dangers and told not to handle the emanation tubes with the fingers, but to use forceps. But some handling is unavoidable. For example, a medical practitioner began making routine applications of radium early in November, 1913. These increased in number until the latter part of January, 1914, after which they were few. After some weeks the tips of the thumbs, particularly towards the ulnar side, and of the fore and middle fingers, especially towards the radial side, gradually became numb and deficient in sensibility. There was greatly increased sensitiveness to heat, paresthesia in the form of a peculiar feeling in the finger-tips, and awkwardness in delicate manipulations. Small objects were frequently dropped and there was difficulty in taking pulses. The affected portion of the fingers became smooth and shiny and the ridges almost obliterated. Later the epidermis became thickened, dry, and parchment-like, and on

pressure with the finger-tips remained indented for some seconds. The thickened horny layer became wrinkled and cracked and desquamated. The nails stood off from the flesh of the fingers and there was a tendency to the upgrowth of tissue beneath the nail. At present, although the patient has handled radium for therapeutic application only occasionally for almost a year, the dryness, partial anesthesia, and slight tenderness of the finger-tips persist. Changes in the blood of radium workers have been described by Gudzent and Halberstaedter—relative and absolute increase of lymphocytes and relative and absolute decrease in neutrophiles. These were also observed by Professor Ordway. Various general symptoms, such as headache, malaise, weakness, unusual need of sleep, irritability and disorders of menstruation, have been described, but it is doubtful whether they are due to the radium or to other causes, such as, close confinement and tiring routine. To prevent these effects Professor Ordway advises that in the application of radium there should be a rotation of the staff, and affected persons should at least temporarily abandon the work. Protection should be given as far as possible by screens in the form of boxes or plates about the radium. The operating rooms should be well ventilated, particularly if any radium emanation is present.

OCCUPATIONAL DISEASES AND INDUSTRIAL HYGIENE

Occupational diseases are, of course, very prevalent. The pity, and in many instances, the shame of it is that such diseases may be prevented. Some occupations are notoriously unhygienic, and it is difficult to provide precautions which will rid them of their disease-conveying tendencies, but, on the other hand, much can be done, which is left undone, to better and render more hygienic the condition of toilers, even in the most menacing occupations. Often, perhaps most frequently, bad conditions in workshops and factories are allowed to exist and continue for economical reasons. Employers are only too often more intent on making money than careful of the health of their employees, and have to be compelled by law to safeguard the lives and bodily welfare of those who work for them. It also occasionally happens that laws when made are not enforced. In the recent report of the Surgeon General of the Public Health Service the question of occupational diseases and industrial hygiene is discussed at some length. During the year investigations of occupational diseases and the hygiene of workers have been carried on under the direction of Surgeon I. W. Schereschewsky. A comprehensive in-

vestigation begun in the fiscal year 1914 was concluded in 1915, and the results recorded in the report. The persons examined belonged to the cloak and suit, and dress and waist industries in New York City, which employ a total of 86,000 individuals. The incidence of defects and diseases was noted in the case of 3,086 workers, and there were recorded 13,457 defects and diseases of all kinds, of which 9,541 were in males and 3,916 in females. The examination showed no vocational diseases peculiar to the garment worker. Nevertheless, it was evident that the effect of sedentary occupations, such as women's garment industries, was to intensify the bad effects upon health and efficiency of certain defects and diseases or to produce them in predisposed individuals. Tuberculosis is the most prevalent disease among garment workers, 3.11 per cent. of the males examined and 0.9 per cent. of the females being found to be tuberculous. Apart from tuberculosis, the most common defects and diseases among garment workers, in order of frequency for both sexes were: Defective vision, 69 per cent.; faulty posture, 50 per cent.; chronic nose and throat affections, 26.2 per cent.; defective teeth, 26 per cent.; pyorrhea, 26.2 per cent.; dysmenorrhea, 20.2 per cent.; hypertrophied tonsils, 15.3 per cent.; defective hearing, 10 per cent.; nervous affections, 7.75 per cent. The investigation resulted in the making of recommendations to the joint board of sanitary control for the improvement of conditions under the board's jurisdiction. Stress was laid upon education as a means of improving the knowledge of personal hygiene of the worker, the lack of which plays an important part in the causation of the defects and diseases noted in the examinations.

With respect to economic conditions and their relation to the public health, Surgeon Warren submitted a report in which he showed how intimately the problem of disease prevention is related to industrial and economic problems and the necessity for co-operation between public health workers and those endeavoring to solve our economic problems. Hygienic standards were defined and outlined according to responsibility. The most important of these were discussed in order to show the relation of insanitary conditions in places of employment, long hours of labor and fatigue, poor living conditions, cost of living, wages and income, and woman and child labor, to the health of the individual worker and the community. The relation was especially shown by the sick and death rates according to occupation and their effect upon the infant mortality. The relation of sickness to labor unrest was also pointed out.

As we have said, the question of the health of workers is of the utmost concern, not only to the workers themselves, but to the community at large. It is obviously false economy and bad policy to avoid taking precautions to guard the health of workers because it costs something. Viewed even from the purely selfish standpoint, it is not economical in the long run. The good health of the people is the greatest national asset, for if disease is engendered and its progress encouraged by the neglect of the laws of health, like a boomerang it will strike those responsible for the conditions and in time will undermine the health of most of the inhabitants. If disease flourishes man will decay and the nation of which he is a part will disintegrate and come to naught. Therefore laws should be made and strictly carried into effect which are best calculated to conserve the health of the workers. The Public Health Service is doing good work in this direction, and its efforts should be forwarded by the authorities that be.—*Med. Rec.*

THE TOXICITY OF ARSENOUS AND ARSENIC ACIDS

Compounds of arsenic are becoming so prominent in therapy, and the types of arsenic products for use in medicine have become so diverse, that any information bearing on their possible mode of action should be welcome. The familiar derivative of arsenic which early found its way into use both as a drug and as a poison is the white arsenous oxide often itself spoken of simply as arsenic. The salts of arsenous acid are also employed, as in Fowler's solution. Arsenic action is not due to the element, but to the ion of arsenous acid, H_3AsO_3. Organic arsenic compounds in which the metallic atom is attached directly to carbon are only feebly toxic. In the course of time, within the body they seem to yield more or less arsenous acid, a reaction which may suffice to explain any pharmacologic potency possessed by the organic derivatives. It is a somewhat unexpected fact that the closely related arsenic acid H_3AsO_4, its anhydride and its salts are far less poisonous than is arsenous acid. This statement has now and then been disputed, but only recently again substantiated at the pharmacologic institute of the University of Berlin by Joachimoglu. The relatively greater toxicity of arsenous in comparison with arsenic acid could be demonstrated by the proportion of 10:6 in the case of the lethal dose required for intravenous injection in animals. Perfusion experiments with isolated frogs' hearts indicated the arsenous compounds to be 300 times as harmful as those of arsenic acid. In

the case of the isolated intestine the contrast, though plain, was not equally striking. This has raised the question why there should be a marked disproportion in the relative toxicity of comparable quantities of arsenic and arsenous acids, depending on the mode in which the test is made. The explanation proposed is as follows: The toxicity of the arsenic acid depends on the reducing power of the tissues with which it comes into contact. By this means it is converted into the very poisonous arsenous compound. Some individual organs or tissues have comparatively slight reducing potency. In the isolated heart, for example, arsenic acid exhibits little toxicity. Throughout the living organism as a whole the reduction of arsenic acid appears to be far more readily accomplished; hence, after intravenous administration of the ordinarily less noxious derivative, it may become more toxic so promptly by conversion to arsenous acid that the real difference between these related arsenic derivatives is no longer conspicuous. This may also explain some of the uncertainty or confusion which has existed in the past in respect to the comparative action of the two substances.—*J.A.M.A.*

REPORTED DANGER FROM ENAMELWARE

Among the thousand and one causes given for appendicitis, enamel chips from cooking utensils have been included. We are informed that the Superior Council of Hygiene for France recently recommended that legislation be enacted forbidding the use of enamelware meat choppers in the production of Hamburger steak. It was observed that the enamel on such machines was in many instances almost entirely worn off, and the assumption was made that the small particles of enamel which had become broken off were quite likely to be mixed with the meat. To avoid all possible danger from the consumption of such particles, this action was taken. Langworthy and Lang, of the Office of Home Economics in the U.S. Department of Agriculture, state that there appears to be no case on record in which it is known that any serious injury has been done to the intestinal wall by enamel particles. They call attention, however, to another feature of the now widely used enamelware articles which is somewhat more likely to be a source of hygienic danger. In coloring the enamels, pigments are sometimes added in the form of one of the metallic oxides. Insoluble materials are also incorporated into the "glass," of which the enamel is essentially

composed, in order to render it opaque instead of transparent. For this lead oxide has been used to some extent, particularly because it helps to produce an easily fusible product. Lead enamels, like lead glasses in general, offer a poor resistance to chemicals, and are quite readily attacked even by substances which have no action whatever on ordinary glasses which contain no lead. The government experts now venture the statement that the use of lead compounds for these purposes, and of lead oxide for producing an opaque appearance, fortunately is fast being discontinued in the manufacture of enamelware and cooking utensils on account of the possible danger of lead poisoning, since the lead in this form is easily dissolved by dilute acids, like vinegar and the acids of fruit juices. With regard to possible dangers from the use of antimony salts to impart desired tints to some kinds of enamel, it is said that preliminary experiments, made in the Department of Home Economics of the University of Illinois, apparently showed that small amounts of antimony compounds were extracted when dilute solutions of organic acids were cooked in some of the cheaper grades of enamelware. It is now possible, however, to secure enamelware utensils which, according to the manufacturers' labels, are free from antimony compounds.—*J.A.M.A.*

THE SIZE OF THE NEW ARMY

To the Editor of The Lancet.

SIR,—When we read in the newspapers that the British army is now 4,000,000 men, and remember that before the war it was about 805,000, we are a little at a loss for appreciating the comparison. The following method may help us to realize what this increase means. There are 810,697 words in the Bible, and we had about that number of soldiers. There are also 3,566,480 letters in the Bible, and we can now consider every letter as a soldier instead of every word as heretofore. Also, we may consider that the first letter of every three verses is a medical man in the R.A.M.C.,-for there are about 10,000 medical officers now (vide "Strength of the Royal Army Medical Corps," *The Lancet*, November 20th, 1915, p. 1167), and there are 31,173 verses in the Bible. To take a Bible and turn over its leaves and realize that every single letter is a soldier in our army produces an impressive feeling of what fighting means.

I am, Sir, yours faithfully,

February 14th, 1916. ACCOUNTANT.

Dominion Medical Monthly

And Ontario Medical Journal

EDITED BY

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COMMENT FROM MONTH TO MONTH

The Annual Meeting of the Ontario Medical Association to be held in Toronto, May 30th to June the 2nd, gives promise of a fine programme, if only the attendance can be assured commensurate with such a programme. There is very little encouragement to officers for the work they perform in arranging a good programme, if the men will not turn out to participate in and profit thereby. Although there are many men abroad, caring for the wounded in many ways, still there are enough men left in Toronto alone to make this a very successful meeting. Conditions may be such in various sections of the province to prohibit many from attendance, but in the towns, and places where there are two medical men, arrangements could very well be made, whereby one could get off to attend this meeting. Our readers are, therefore, urged to do their best to make the visit to Toronto where the local profession are always glad to meet and welcome the hard-worked practitioner from the country.

The Medical Officers of Health also meet in Toronto at the same time: and there are questions regarding the formation of county branches of the Ontario Medical Association which necessitate settlement at this meeting. It is surely time this matter

was fully and finally perfected. It is a good opportunity also to compare notes as to the many questions affecting the profession of the province as a whole.

The Treatment of Alcoholics and Drug Addicts, in the province of Ontario, has long been a serious problem. By new legislation arrangements are to be made whereby these peeople may enter the hospitals for the insane. Provisions are to be such that physicians and guardians may make application for confinement and treatment of their patients and wards; and patients may voluntarily seek admission when they are in a condition to fully understand the obligations and bargain they are undertaking and making. Whilst to some the arrangements to admit such people into the hospitals for the insane might not appear ideal, there can be no doubt of the fact that a half-loaf is better than no bread. Possibly there may arrive a time when separate institutions may be provided. In the meantime the hospitals for the insane have about lost that unwarranted stigma which too long attached to them as "asylums" for "lunatics," and have appeared in right and proper light as hospitals for people of unsound mind. In that respect they are parallel with all general hospitals; for a person with a brain sickness is no more to be demeaned than a person with diabetes or a broken leg.

Defectives in Ontario are also calling loudly for recognition, or at least, those interested in those unfortunates, and more interested in the preservation of the status of their associates. The desire to preserve the status of the normal school child is paramount, primary; the desire to alleviate and help in perfecting the conditions and environment of the defective, may be equally paramount, but secondary. Had the Government of Ontario ample means at its disposal to grapple with all the problems which confront it, there is no doubt that its members who are as humane and progressive as the rest of the community, would not hesitate in employing all its valuable assets for the good of the people. They have of necessity, therefore, to go slow, and make progress with the utmost care; for the people are not yet educated to the coming of direct taxation. When that time arrives, the people can have all the health and humanitarian problems solved they are willing to pay for. In the meantime the problem of the mental

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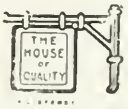
defective is an urgent one and demands the closest consideration that can be given it, and, indeed, not only the closest consideration, but a compelling effort to, in a measure, alleviate the situation.

Bilingualism is an affection of the social fabrique in Ontario. It is a salient, and a salient with a French savour too. Because it is very apt to create more perturbance of mind than an epidemic of smallpox, it is, therefore doubly interesting to the medical profession. Placed side by side with the problem of mental defectives, it does not commence to compare in importance with that problem; but yet it will engage the mind of the province far more than will that of mental defectives. The reason is clear; it is political. Of a truth, it may be here interjected, an ounce of prevention is worth a pound of cure; for the penurious policy of compensating teachers, practised by many rural school boards in the past, must in a large measure be responsible for the withdrawal of many from the ranks of the teaching profession, to seek better means of livelihood in other callings in life. We should all like to read, write, and speak the French language fluently; but the Province of Ontario cannot get away from the fact that the English language is ours by right; but from the viewpoint of the preventive side of medical practice which embraces now public health medicine, the medical inspection of schools, etc., there can be no question, there would be a hampering of effort in many other directions if any language other than English usurped the place of that language as a means of communication.

One Aspect of the Controversy over the Medical Inspection of Schools in Toronto requires some comment by way of emphasizing that aspect in the present situation. It has been stated that on the Board of Education there are four physicians who all favor medical inspection under the Board; while on the Board of Health of Toronto, there is not one physician. Of course this is not taking into account either the Chief Medical Inspector, or the Medical Officer of Health.

It so happens that at the present time there are four physicians on the Board of Education, but in two years, there might not be one. At any time almost, the conditions might be the



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same—no physicians on either body. That argument, therefore, may be dismissed as being purely accidental.

It, however, brings to mind that the Board of Health of the Province is composed solely of physicians; while the Board of Health of Toronto is composed solely of laymen. If we mistake not, the Board of Health of the Province is appointed by the Government every five years. Some members thereof may sometimes, and have, served for more than five years. Familiar before their appointments with many matters of public health, they naturally qualify themselves to give faithful service whilst incumbents in office. Public health is so intimately associated with medicine proper, that they are always closer in touch with public medicine than laymen, and thereafter, or even general practitioners. If they have not the information, they know at least where to get it promptly, and that always constitutes knowledge. Laymen can never be expected to so thoroughly familiarize themselves with problems of public health as physicians, and not ever so much as those physicians who serve on boards of health.

It cannot tend to the best in public health to have aldermen, who may also serve for one year, on a board of health. The question is too big to grasp in so short time—we are speaking of the larger cities. Rather should a board of health be composed of citizens well known for their active interest in matters of public health, and physicians of a public health bent of mind; and no one should be in a better position to suggest the members of a board of health than the executive officer of the board, the medical officer of health himself.

Municipal bodies, in appointing boards of health, should confer with their medical officer of health as to fit and proper persons to constitute such boards.

International Clinics. Volume I. Twenty-Sixth Series, 1916. Philadelphia and London: J. B. Lippincott & Co. Canadian Agent: Mr. Charles Roberts, Unity Buildings, Montreal.

The first volume of this widely-read periodical, published in book form and issued quarterly, embraces articles on treatment, medicine, neurology, public health, pathology, gynecology, surgery, and a valuable general review of medicine for the year 1915. Many well-known writers contribute illuminating articles to this quarterly every year, embracing all subjects in medicine. Thus is the general practitioner, as well as the specialist, kept in close touch with much of the best thought and literature of the day.

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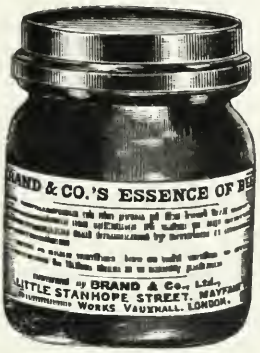

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Reviews

Text-Book on the Pathogenic Bacteria and Protozoa. For Students of Medicine and Physicians. Eighth edition, revised. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia. Octavo of 807 pages with 323 illustrations, a number of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $4.00 net. Canadian agents: The J. F. Hartz Co., Ltd., Toronto.

An eighth edition signifies a gratifying reception at the hands of the profession. Indeed, it is not to be wondered at for in this text-book upon Pathogenic Bacteria and Protozoa we have one of the best on the market. There are 323 illustrations, a number being beautifully executed in colors. The limited space at our disposal would scarcely warrant what is denominated a revision. Rather let us say we are pleased to extend this notice and stamp it with our belief that no better practical book upon the subject could be desired by the student, the teacher, or the practitioner.

Physical Diagnosis. Third edition, revised. Principles and Practice of Physical Diagnosis. By John C. DaCosta, Jr., M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Octavo of 589 pages, with 243 original illustrations. Philadelphia and London: W. B. Saunders Co., 1915. Cloth, $3.50 net.

A good book on physical diagnosis is always welcome. In presenting the third edition one may expect the author had something additional to incorporate therein, forby the now universally methods practised by the profession at large. Thus the subjects of vertebral percussion, sphygmomanometry, electrocardiography, and gastric radiography have received well-merited attention. The times and the advances in medical knowledge bring out such subjects as acute pulmonary edema from chlorine gassing, the lobar type of bronchopneumonia, mediastinal pleurisy, etc. The book is profusely and aptly illustrated, and will be of the utmost benefit to student and practitioner alike.

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The Endocrine Organs. An introduction to the Study of Internal Secretion. By Sir Edward A. Schafer, LL.D., D.Sc., M.D., F.R.S., Professor of Physiology in Edinburgh University. With numerous illustrations. London and New York: Longmans, Green & Co.

Considering the interest now manifested in the subject of physiology and therapy of the internal organs and the secretions thereof, this book will be welcomed by all scientific physicians. Indeed, the profession is under a debt of gratitude to an eminent and reliable scientist in publishing in book form studies founded on a course of lectures (Lane medical lectures) delivered at Stanford University, California. The book is well-illustrated, and is an authoritative pronouncement on the subject.

The Clinics of John B. Murphy, M.D. Vol. V., Number 1. Philadelphia and London: W. B. Saunders Co. Canadian agents: The J. F. Hartz Co., Ltd., Toronto.

Being more of a practical journal than a book incorporating a large number of articles upon various surgical subjects, all that it is necessary to say is, that practitioners more especially instructed in surgery will be fed-up with modern technique and interesting and important cases in connection with the subject of surgery. The clinics make valuable and interesting study.

Diseases of the Nose and Throat. By Sir St. Clair Thomson, M.D., F.R.C.P., F.R.C.S. Second edition, 858 pages, 22 plates, and 337 figures, price $7.50. London: Cassell & Co. Toronto: McAinsh & Co., Limited.

Specialists on the nose and throat will remember that it was about four years ago St. Clair Thomson gave to us his illuminating book on the Diseases of the Nose and Throat. Like other branches of medicine and surgery, advances have as well taken place in that time in diseases of the nose and throat, and in order to incorporate them, a new edition of this splendid book was considered necessary. In this new edition are to be found descriptions of suspension-laryngoscopy, nerve-blocking, indications for salvarsan, etc. A new section is included on intra-nasal dacryocystostomy, as well as one on the nasal route to pituitary tumors. The book is originally and profusely illustrated.

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News Items

Dr. Forbes Godfrey, M.P.P., Mimico, is accompanying Premier Hearst on a trip to the West Indies.

Lieut.-Colonel Henry Gordon, Winnipeg, has been appointed officer in command of No. 12 Ambulance Corps.

Dr. Alfred Thompson, M.P., Yukon, has been appointed superintendent of Canadian Military Hospitals in Canada.

Dr. Herbert Walter Martin has been appointed medical officer to the depot regiment C.M.R. with the rank of Captain.

Dr. B. E. McKenzie, Toronto, a well-known orthopedic surgeon, died rather suddenly in that city after an operation.

Dr. J. M. Elder, Montreal, who has been home for a few weeks, has returned to the McGill University Base Hospital.

Dr. Charles A. Temple, Toronto, has been appointed medical officer of the Eighth Artillery Brigade, with the rank of Captain.

Dr. Waring G. Cosbie, Toronto, has been appointed medical officer of the Fifty-eighth Battalion at Bramshott Camp, England.

Colonel Hanford McKee, Montreal, has been appointed second in command at the Canadian Eye and Ear Hospital at Folkestone.

Lieut.-Colonel Mignault is in command of No. 4 Stationary Hospital, presented by the Canadian Government to France. It is located at St. Cloud.

The Officers' Hospital, which is the residence of Mrs. H. D. Warren, Toronto, and placed by that lady at the disposal of the Government, has been formally opened.

Dr. Horatio C. Burritt, Toronto, died on Good Friday after an illness of several months. He was in his 76th year, and up to last summer had been in active practice over fifty years. He formerly practised in Peterborough.

In order that the nurses graduating from Wellesley Hospital, Toronto, may obtain recognized standing, the Hospital has been brought under the Hospitals and Charitable Institutions Act. It will now receive governmental aid.

Dr. Arthur W. Mayburry, 569 Spadina Avenue, Toronto, desires to announce to the members of the medical profession that he will move early in May to 329 Floor Street West (the residence of the late Dr. J. D. Thorburn, near corner of Bloor and St. George Streets).

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Original Articles

*THE PERIODIC MEDICAL EXAMINATION

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Mr. President and Gentlemen:

Never before in the history of the world has there been such awful wastage of human life; and never before have there been so many movements to conserve human health and human life. The former began about two years ago; the latter, about twenty. Fraternalists are spilling their blood upon European battlefields for humanity and civilization. What are they doing at home to conserve human health and human life?

"Protection to the home" is the tonic of fraternalism. Canadian fraternalists have gone overseas to do their part in protecting our homes from devastation at the hands of a ruthless, savage, and barbarous devil of militarism. That is the way to prevent the enemy battering at our own gates. Is it not better, too, to protect ourselves from the unseen enemies of mankind, the germs and the bacilli, before they sneak into our physical strongholds? An ounce of prevention is worth a pound of cure! Let us, then, begin to protect our homes by staving off disability on account of sickness, old age and accident. The aim and object of fraternalism should be to keep the breadwinner capable as long as possible, and so delay the payment of benefit and mortuary insurance. This is based upon humanitarian, intelligent and sound business principles.

But where are some of the concrete instances of the results which have been accomplished in the conservation of human health and human life? Whilst many examples might be given, one near home and fairly well-known may be mentioned somewhat in limited detail.

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Up to about twenty years ago, the deaths from tuberculosis in the Province of Ontario increased annually, until they had reached a total of over 3,400 in one year. Then began the campaign for the prevention of this disease; and without reciting what has been done, it is sufficient to state that year by year they have been decreasing, until they now stand at 2,200 per annum. It will not be too much to expect that, if the progressive campaign is continued, tuberculosis will be practically wiped out in the Province of Ontario within another generation. To-day Ontario has one sanatorium bed to 2,403 of the population and stands first amongst the provinces of the Dominion in the matter of provision for cases of tuberculosis. Manitoba comes second in the matter of provision; and it is significant that Ontario and Manitoba lead the other provinces in the decline in the death rate from tuberculosis. In those provinces where there is little or no accommodation, the secretary of the Tuberculosis Association tells us there has been no decrease in their tuberculosis death rate. Whilst it is not claimed that sanatoria have accomplished all this, they have materially influenced the treatment of tuberculosis; and the educative campaign toward the prevention of the disease has markedly lessened its incidence.

Any medical practitioner can recount cases of incipent or overlooked tuberculosis, Bright's disease of the kidneys with increased blood pressure, diabetes, cancer, supposedly cured syphilities, menacing typhoid carriers, so-called cases of indigestion, etc., which come on insidiously, and are very often discovered by accident, through the patient presenting himself to the physician with some symptoms he quite frequently misinterprets.

Another striking and salient example of the value of the periodic medical examination may be drawn from the experience of the Board of Health of the City of New York. A little over a year ago, the department of public health in that city detailed a male and a female physician, on whole time service, for the purpose of making annual medical examinations of the employees of that department. It was not a compulsory measure. For the first examination over 600 men and over 1,000 women voluntarily presented themselves; some even presented themselves from other departments of civic government. In the report of these examinations detailed cases are given. Many were found to be in a condition of abnormal health, some even with serious insidious disease. They were advised to take treatment and return for re-examination. The re-examination a year afterwards disclosed a great majority of recoveries.

In all armies periodic medical inspection and supervision of health is now paramount. Soldiers are kept fit to fight. The Japanese blazed the way. Prior to their war with Russia, three and one-half men died from disease in the armies in the field to one slain by the bullets of the enemy. The bacilli were overwhelmingly victorious over the bullets. By the adoption of preventive measures, even going so far as to order their men to take baths before engaging in mortal combat, the Japanese reduced the mortality from disease in their army so that it stood as one to one of those slain in actual warfare or as a result of it.

Typhoid fever began to be the bane of all armies in the field about the middle of the last century. Amongst 250,000 British troops in South Africa, there were nearly 58,000 cases of typhoid fever with 8,022 deaths, and 19,000 invalided home; that from one disease alone to say nothing of the ravages of dysentery and pneumonia. Altogether in the South African campaign 8,000 died as the result of actual warfare.

In the Spanish-American war, the Americans sent into the Island of Cuba, 117,000 non-commissioned officers and men. Twenty per cent. of them contracted typhoid fever, and 1,600 died.

In the present great war, from its beginning up to the 10th of November, 1915, there were only altogether amongst the British forces on the western battle front, about 1,500 cases of typhoid fever. It has frequently been stated that it was unusual to see soldiers returning from the trenches to hospital on account of disease; and the Under Secretary of State for War has frequently announced in the House of Commons that nothing like the way the health of the British forces has been conserved, has ever before occurred in history.

To what is this to be attributed? To inoculation to prevent typhoid fever; and to the very laudable work of the Sanitary Service Units, which practically take the part of a department of health of any civic government.

The results of inoculation are best seen in the experience of the United States army, an army which consists ordinarily of about 90,000 troops, stationed in various parts of the world. In the year 1908, the American military authorities sent two of their surgeons to England to study this great discovery of Sir Almroth Wright, the famous London physician. Upon their return, they began to put inoculation into practice, tentatively. Before that date it was the rule to have from 300 to 350 cases of typhoid fever in their troops every year. Their first results were so good that inoculation was made compulsory in the United States army in

September, 1911. In 1912 they only had twenty-seven cases; in 1913, four cases; in 1914, three cases; up to the first of July, 1915, only one case.

Many fraternalists are drawn from the ranks of the industrial classes. Many are exposed to great dangers, suddenly, either through poisonous gases, vapors and fumes; or chronically, by slow and insidious absorption into the system, through the medium of the stomach, lungs or skin. Canada is so far behind the other countries of the world in the matter of dealing with the prevention of industrial, or occupational diseases, that our governments, our people, and our fraternal societies should be heartily ashamed of the absolute neglect shown in this branch of public health. If the fraternal societies took hold of this matter and constantly and regularly pressed it upon the attention and consideration of governmental bodies, they would be doing something worthy the name fraternal. For the sake of the fraternalists in industrial pursuits, leadership is wanted; and the Canadian Fraternal Association can point the way.

Members of fraternal societies need enlightenment upon a question so vital, as periodic medical examinations, to the "protection of the home." They must understand that human life is extensible, and that disease in many cases is largely preventable. There is no question of the value of the recurring medical examination which can detect the departure from the normal and the beginning of a chronic and fatal malady. It furnishes the opportunity to seek appropriate treatment from the family or lodge physician.

For several years the Association of Presidents of Life Insurance Corporations in the United States and Canada has had a well-organized public health bureau. They use their agents as a vast army in the public health campaign: primarily, to prevent disease in their policy-holders; secondarily, for the good of the community. Public health literature is issued and distributed. They are carefully considering the adoption of the periodic medical examination. Some, even, have already provided for it. If life insurance corporations, manned by keen and bright business intellects, can do this in the interests of policy-holders, and in the interests of increased dividends, fraternal societies cannot much longer delay in joining in this humanitarian and economic campaign, unless they choose to be considered stagnant, retrograde or following suit to the old-line companies' lead. Advertising like charity commences at home. The fraternal society which adopts some plan of periodic

medical examinations advertises to its members and the public that it is alive and progressive, and stands to win in the race.

But it is not alone in life insurance that the periodic medical examination is being instituted. It has been introduced into the school, is being adopted in the office, in the factory, in the restaurant; for the home worker as well as for the unit and the group. Consider the engineer who takes you upon a long journey! Watch him making a careful inspection of the engine, the trucks, etc! There is no thought of waiting for the breakdown. Periodic inspection is given all along the route. Prevention of accident is the motive. And so in the factory there is periodic inspection of machinery. Man, however, endowed with the highest intelligence, drifts along and only seeks an examination of his "machinery" when some discomfort sounds a warning note.

There has been established in New York City an organization known as The Life Extension Institute, whose vocation is to bring to the attention of the general public early recognition of disease through the medium of the periodic medical examination. In their recent publication of tests, and comparisons made of the examinations upon 1,000 commercial employees, from banks and other houses with 1,000 employees of a large industrial establishment, it is most remarkable that in the two classes departures from normal health and physical defects were abnormally large. Of the industrial employees, not one passed a perfect physical examination. Their average age was 32.7 years. In the commercial class whose average age was 27 years, perfection of physique and health were found in one per cent. In the industrial class 69 per cent. were referred to the physician for treatment; in the latter, 81 per cent. Of those aware of their condition when referred to the physician, 10.15 per cent. were in the industrial class, and 11.54 per cent. in the commercial class. Is any better proof needed of the urgency of the periodic medical examination?

The human "machine" is of most value and does its best work when kept in good repair.

(N.B.—The Canadian Fraternal Congress unanimously passed a resolution presented from the Medical Section, calling upon fraternal societies to educate their members to the value of the periodic medical examination.—Ed.)

DUSTY OCCUPATIONS

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(*Journal American Medical Association*).

Even in the earlier medical works, the dust of certain occupations was held a causative factor in respiratory diseases. Until recently, however, investigations have been sporadic and more or less confined to the more definitely dusty trades. A study of these shows many, not usually so considered, to be dusty. Dr. W. Gilman Thompson says:

"Dusts may be sterile and simply mechanically irritating. They merely lacerate the bronchial mucosa. Infection may follow later. Dusts may be organic, as fur and hair, which convey germs; or, like flour dust, swelling and becoming sticky they may choke respiratory passages without serious irritant or toxic properties."

To ascertain the danger of dust to workmen was the object of this investigation. The data were obtained from the records of patients examined and treated at the Cornell University Medical College Dispensary. The diseases investigated were those occurring in furriers, barbers, bakers, tobacco workers, marble workers, stone cutters and plasterers. The variation in the number of patients in the different occupations applying for treatment is due to the presence or absence of a large manufacturing plant in the vicinity of the clinic. To illustrate, the location of a large tobacco factory near the clinic is the reason for the 125 tobacco workers, while the absence of any large marble or stone cutting plant accounts for the small number of workmen, nineteen and thirty-seven, respectively, examined from these trades. There is probably very little difference in the home hygiene of the workers taken as a whole. Special attention was given to the prevalence of respiratory diseases.

Furriers.

The fur trade has long been considered a hazardous occupation because of the occurrence of respiratory diseases among its workers. In 1915, the Department of Health of the city of New York made an investigation of the fur trade under Louis I. Harris, who describes the process thus:

"The raw fur is first shaved so as to remove the dried and hardened fat and connective tissue that adhere to it; this is known as 'fleshing fur.' The skin is then treated with sawdust, salt, sand and water, to make it soft and pliable and to remove the natural grease; this process is spoken of as 'dressing furs.' The fur is subsequently dyed with various vegetable and chemical dyes. Principal among these are ursol colors (aniline products), logwood, tumeric, pyrolignite of iron, Sicilian sumac, nutgall, chlorate of potash, verdigris, chrome salts and peroxide of hydrogen. The dyed fur is now ready to be made up into garments. It is wet, cut, stretched and nailed to conform to various designs sketched on tables and allowed to remain so for a number of hours, the various pieces being then sewed together by machine and finished by hand, as in the case of cloth garments. To remove dust and loose hairs the fur is frequently beaten by hand in the workrooms, or, less often, in a closed compartment. Where the beating is done by hand, two long bamboo sticks are employed, with which the employee keeps up a constant tattoo on the fur garments."

At the clinic we had few workers at the hatters' fur trade, and they are not considered in the statistics. The factor of dust is present here too from the brushing of furs and the clipping and plucking of the long hairs, which are often thrown at the feet of the worker. The use of mercuric nitrate is a serious danger in this trade.

Of the sixty-nine furriers examined at the Cornell clinic, twenty-seven were born in Russia and twenty-four in Austria-Hungary. Sixty-three were male and six female. There were twenty workers 21 years of age or under; thirty-seven between 21 and 40, and twelve over 40 years old.

Of the various tracts attacked by disease, the respiratory was the most frequently involved, forty-two of the furriers having respiratory diseases: thirty of the patients had chronic, and twelve acute disease. There were nine patients with pulmonary tuberculosis, twelve with chronic bronchitis, ten with emphysema and two with bronchial asthma. Of the two bronchial asthma patients, one said his attacks were brought on as soon as he handled fur dyed with the aniline dyes, but he was not affected by the vegetable dyed furs. The marked frequency of respiratory disease stands out clearly in these figures. These certainly do not occur among the average individuals. A visit to the shops shows a marked prevalence of dust containing dirt and particles of fur; especially is this the case when beating, a process so often

performed in the general workroom, is going on. The means of prevention of this state of affairs will be considered in the general discussion of the removal of dust.

Barbers.

The occupation of the barber is not ordinarily considered dusty; but it seemed rather common to have cough among the chief complaints of a barber. In his work there is produced a large quantity of short hairs. These are affected by gravity according to their weight, the lighter ones tending to circulate in the atmosphere at the slightest draught. Some find their way into the respiratory tract with inspiration. Other factors to be taken into consideration are the nationality, as the majority of the workers were Italians, and the indoor employment.

The number of barbers was 110. Of these, sixty-eight were Italians, eleven Americans, and ten Germans. There were ten workers 21 years of age or under, forty-two from 21 to 40 years, and fifty-eight above 40.

There were forty-five patients with respiratory diseases, thirty-two having chronic and thirteen acute disease. Twelve barbers suffered from pulmonary tuberculosis, six from chronic bronchitis, seven from emphysema, four from chronic pharyngitis, two from bronchial asthma and nine from acute bronchitis.

We also found thirty-one patients afflicted with diseases of the alimentary tract, there being nine with constipation and thirteen with chronic gastritis. Although the dust cannot be blamed for this, the occupation is a factor in its cause through the long hours spent indoors on the feet. This produces fatigue, which disturbs normal alimentary action.

Bakers.

The baker's trade was long considered insanitary, but has been much improved by regulation. The chief hazards are exposure to excessive heat and dust consisting mostly of flour. From the statistics given, it still shows room for improvement. The introduction of machinery in bread making is eliminating considerable dust.

Of the 130 bakers examined in the Cornell clinic sixty-seven were Germans, and the remainder were of fifteen different nationalities. All were male. Twelve workers were 21 years or under, sixty-nine between 21 and 40 years, and forty-nine over 40 years of age.

Fifty-four of the 130 bakers presented signs of respiratory disease. Thirty-one patients had chronic, and twenty-three acute

diseases. Eleven had pulmonary tuberculosis, seven chronic bronchitis, eleven emphysema, two chronic pharyngitis, one bronchial asthma, nine acute bronchitis, five acute pharyngitis and eight dry pleurisy.

A fact which should be noted is the occurrence of alimentary diseases in thirty-one patients. Seventeen had gastric disturbances, and thirteen were constipated. This is probably due to a free indulgence in their own wares and the psychic disgust in some cases due to odors arising from the baking.

There was also present the more or less constant use of alcohol in the form of beer and other beverages, there being three patients with alcoholic gastritis and one with cirrhosis of the liver.

Tobacco Workers.

In the manufacture of tobacco, cigars and cigarettes, a certain amount of dust is produced. The tobacco part of this is both toxic and irritating. The amount of dust varies with the occupation, being very slight in the manufacture of cigarettes, which are made chiefly by machinery, except the filling, which is done by hand. Plenty of dust is present in the work of the strippers and tobacco handlers. In the manufacture of cigars there are few moist leaves used. The factory room contains piles of dried leaves, especially for cigar fillers. Into this pile the hand of the worker is constantly reaching. The binder and wrapper are the only parts used in a moist condition.

The atmosphere in which the workers are compelled to labor contains fine particles of tobacco with its nicotine and volatile oil, and extraneous matter adherent to the tobacco and from other sources. The principal chemical constituents of tobacco are nicotine, nicotianine and volatile tobacco oil. These are poisons and irritants. Tobacco dust consists of fine parts of the leaves, cilia and the hard woody parts.

Heucke, Schedban and Hesse made observations which proved the presence of considerable dust in the air of the workrooms taken at three meters from the floor for twenty-four hours. This was found to be much higher than the figures obtained by Fodor as to the dust content above a city street. The sweepings of the tobacco rooms contained 73.32 per cent. sand and from 0.76 to 0.72 per cent. nicotine.

Of the 125 tobacco workers treated at the Cornell clinic, there were ninety-two cigar makers, nineteen cigarette makers and fourteen tobacco handlers. Thirty-six of the workers were female and eighty-nine male. Thirty-nine workers were born in the United

States, twenty-two in Russia, twenty-seven in Austria-Hungary, fourteen in Italy, nine in Germany, and the remaining fourteen in England, Bohemia, Spain, Cuba, Greece, France and Roumania. Sixteen workers were 21 years of age or under, seventy between 21 and 40 and thirty-nine over 40. This shows the majority of workers to be young adults.

The occurrence of disease is most common in the respiratory tract, there being thirty-eight patients with these diseases. Of these, twenty-one had chronic, and seventeen acute affections. Eleven patients had pulmonary tuberculosis. Physical signs of chronic bronchitis were found in four, and emphysema in three patients. Acute bronchitis was present in nine workers, and acute pharyngitis in six. One case of pleurisy with effusion should be mentioned, as it is so often followed by tuberculosis.

Thirty patients suffering from alimentary complaints cannot be passed over without comment. Chronic gastritis and constipation were the most common diseases. The principal factors here are impure air, tobacco and the lack of proper exercise, which are known to depress the appetite and disturb digestion. Perhaps the occupation is not entirely responsible, as the workers are often heavy tobacco consumers.

Under nervous diseases, the statistics show twenty-five patients. Among them we find ten patients with neurasthenia and five with headaches. The headache in one patient was classified as toxic.

There was one patient with acute nicotine poisoning, and one with tachycardia.

Marble Workers.

The chief processes of marble work are those of cutting and polishing. Marble cutting may be done by hand with a mallet and chisel or with pneumatic tools. These tools stir up much dust, which is increased by the use of air pressure to keep the stone clean under the tool. The accumulated dust is also raised in cleaning up and moving the stones.

In polishing, slabs of marble are rubbed on beds of sand and chilled shot with a constant supply of water. Then the slabs are rubbed on an emery bed. Next a fine-grained sand stone is used by hand. The final polish is given by buffing with a thick specially prepared felt on which a small amount of tin oxide is fed. The dusty part of this process is the handwork, and the stirring up of the dried dust produced.

Nineteen patients giving their occupations as marble workers were examined. The number of patients of each nationality was:

Ireland seven, United States five, Italy two, and England, Austria, Canada, Scotland and Germany, one each. Three workers were 21 years and under, seven from 21 to 40, and nine over 40 years of age.

We find eight of the marble workers to be suffering from respiratory diseases, five chronic and three acute. Three patients had pulmonary tuberculosis, two emphysema, one dry pleurisy, and two acute bronchitis.

Stone Cutters.

Much of the stone cutting is outdoors or in large airy sheds. It consists of shaping, smoothing and cutting the stones into smaller pieces, as for paving blocks. Formerly much of the work was done by hand, but now pneumatic tools are used considerably. These produce a finer dust, and tend to increase the hazard. It is held by some that the dangers are greater in sedimentary stones than the harder stones like granite, but no definite figures on this point could be obtained. Dust is also stirred up in sweeping and moving the stones about.

The number of stone cutters examined was thirty-seven. Fifteen were born in the United States, six in Ireland, four in Italy, two in Germany, Austria and England, one each in France, Scotland, Bohemia Hungary, Belgium, and Armenia. As to ages, one was 21 years old, fifteen were from 21 to 40, and twenty-one over 40.

Twelve patients showed respiratory disease, nine being ill with chronic and three with acute diseases. Three workers had pulmonary tuberculosis, three emphysema, and one each chronic bronchitis, chronic pharyngitis, chalicosis, acute bronchitis, acute pharyngitis and acute laryngitis. Although only one case of chalicosis is recorded, a greater number would probably have been noted if other factors were studied as closely as physical signs.

Plasterers.

In the work of the plasterer there is exposure to dust, cold and dampness. The source of the dust is from the plaster, which is usually composed of lime, sand and hair moistened. Any one at all familiar with the work of a plasterer knows what dust there is when the dried plaster is crumbled loose by walking, moving of objects, and sweeping. The draughts of air through the open doors and windows fills the atmosphere with dust, and in this the worker has to breathe. There is some controversy among investi-

gators as to the danger of lime to workers. Selkirk was unable to find any instance of phthisis among them nor could he learn of any worker in lime kilns having died of tuberculosis. That the figures for the rate of death due to consumption among the plasterers is considerably higher than that for registered males in the same district, however, is shown by the statistics compiled by F. L. Hoffman.

The number of plasterers from which these statistics were obtained is thirty-six. Fifteen of these were born in the United States and ten in Ireland. One worker was 18 years of age, eighteen were from 21 to 40, and seventeen over 40 years of age.

The respiratory tract of the plasterers is chiefly affected as in the preceding trades, there being thirteen patients in this class. Seven patients had chronic and six acute respiratory disease. Three patients had pulmonary tuberculosis, three chronic bronchitis, two emphysema, two acute bronchitis, three dry pleurisy and one acute pharyngitis.

Summary and Conclusions.

There are certain facts which stand out in the foregoing figures. Of the sixty-nine furriers, 13+ per cent. were ill of pulmonary tuberculosis. There were thirty with chronic respiratory diseases. Among the 110 barbers, thirty-two patients were found with chronic respiratory disease. Of the total number, 10+ per cent. were tuberculous. Of the 130 bakers, 8+ per cent. had pulmonary tuberculosis and thirty-one chronic respiratory diseases. Of the 125 tobacco workers, 8+ per cent. had pulmonary tuberculosis and twenty-one chronic respiratory disease. Among the marble workers three, or 15+ per cent., of the nineteen had pulmonary tuberculosis. Eight had respiratory disease. Of the thirty-seven stone cutters, 8+ per cent. showed signs of pulmonary tuberculosis. Nine had chronic respiratory diseases. In the records of the thirty-six plasterers, 8+ per cent. had pulmonary tuberculosis, and thirteen had respiratory disease.

In the trades investigated, we have examples of dust from an animal source (the furriers and barbers), from a vegetable (the bakers and tobacco workers), and from a mineral (the marble workers, stone cutters and plasterers). All the patients show a high percentage of tuberculosis and respiratory diseases irrespective of the character of the dust. This proves that it is dust which is the important factor. The dust prepares the lungs for the infective agent, and probably the exposure of the patient to

the tubercle bacilli and other germs is not greater than that of the average workman.

Although some patients did not have their diagnosis of the pulmonary tuberculosis verified by positive sputum examinations, the physical signs in all were unquestionable. An error of diagnosis would affect only a fraction of 1 per cent. It is not the exact figures but the relative high rate that is important.

Admitting dust to be the important causative factor, we have a definite point of attack. By decreasing the amount of dust inspired, we can lessen the frequency of respiratory diseases.

Taking the trades investigated in order, let us see what can be done:

In the fur trade, one of the worst processes is beating. This should be done in a separate room with proper means of removing the dust from the atmosphere. Dust should not be allowed to accumulate, sweeping should be done after hours, preferably with dampened floors, or still better by use of the vacuum cleaner. Respirators should be worn wherever dust is prevalent.

Among the barbers, hairs should not be allowed to remain on the floors. Electric fans and currents of air should be so directed that the hairs will not be disturbed.

In the bakery, special care should be taken to avoid raising a dust. Where there is dust, proper protectors for the nose and mouth should be required.

The tobacco workers should not allow scrap to accumulate. Where it is absolutely necessary to work with the dried tobacco, suction fans and respirators should be used. Sweeping should be done after work, and the floors should be dampened. Vacuum cleaners would be preferable.

In marble work, stone cutting and plastering, the fine material should be removed as soon as possible. Any procedure that stirs up unnecessary dust should be curtailed. Respirators are called for where dust is present and cannot be avoided.

Aside from the special features of each trade, there are certain general ones to be considered. There is the workman of the dusty trades. He must be instructed concerning the dangers of his occupation and how to avoid these. This can be accomplished through his union, and printed slips provided by the health department and distributed by his employer. He should be obliged to have a complete examination every six months. He should consult a physician whenever ill, and not temporize or use "patent medicines." The importance of fresh air and cleanliness in his

home should be impressed on him, as the insanitary condition of the tenement house is well known. Exercise should be encouraged in the sedentary trades, even if it only be a short walk in the open air.

The workroom should not be overcrowded, and should be clean and not littered by waste material. Light and ventilation should be provided. Hoods, fans, suction apparatus and vacuum cleaners should be installed. Where proper machinery will decrease the amount of dust produced, its use should be encouraged. Protective apparatus, as respirators, should be provided wherever necessary. This can be accomplished by sanitary regulations under the control of the Department of Health.

In conclusion, there are certain evident facts. The worker in dust from an animal, vegetable or mineral source shows a high percentage of respiratory disease. While his exposure to disease germs is not greater than that of workers in other trades, dust prepares his lungs to receive the infective agents. By diminishing the amount of dust, the occurrence of these diseases will be lessened. Thus we shall have decreased the suffering, expense and loss of time of the worker, and shall have increased his health, savings and efficiency.

THE HEALTH OF MUNITION WORKERS

It will be remembered that last year a committee was appointed with the concurrence of the Home Secretary and under the chairmanship of Sir George Newman, the principal medical officer to the Board of Education, with the following reference: "To consider and advise on questions of industrial fatigue, hours of labor, and other matters affecting the personal health and physical efficiency of workers in munitions factories and workshops." This committee has already made a number of valuable reports to the Ministry of Munitions, and the last four memoranda* are of the first practical importance at the present moment. Munitions are being produced at high pressure, and the Memoranda suggest how, without lessening our output of guns, of shells, and of other appliances of war, we may obtain a supply equal to our needs with greater economy of life and health of our fellow-citizens of both sexes. The inquiries of the Committee are not directed to these

*Memorandum VII, Industrial Fatigue and its Causes. Cd. 8213. VIII, Special Industrial Diseases. Cd. 8214. IX, Ventilating and Lighting of Munition Factories and Workshops. Cd. 8215. X, Sickness and Injury. Cd. 8216. Obtainable from the usual official publishers, or through any book-seller.

subjects only in connection with the war, nor has its advice an application limited to the munition workers for whose benefit it is promulgated as a matter of urgency. Commercial industry will have to be organized with energy, and factories will continue to be worked at full pressure when war is over, if we are to maintain our national position in the world's markets; and the Committee points out that, to the detriment of both health and wealth, the management of our factories has hitherto been less based upon experimental science than has been the case in the business concerns of Germany, the enemy whose industrial organization and energy are now standing her in such good stead.

In the Memorandum VII upon industrial fatigue, the Committee expresses the hope that the study of this subject, now forced into notice by immediate need, may have results that will benefit the industries of the country during coming years of peace. One impression produced by this Memorandum is that in these days of stress we are paying dearly now for errors committed in the past, and for recklessness in regard to health permitted in the nineteenth century under conditions of plentiful labor and industrial expansion. The scientific and physiological aspects of fatigue described in this Memorandum might well have been realized in times of peace, and we ought not to have had to wait until the war arrived for the outlining of practical remedies and the regulation of hours of labor, so that the health of the worker might be conserved and the fruits of his toil increased. Certain industrial undertakings, arising out of the war, have special problems of their own—for example, the risks entailed by exposure to lead, tetrachlorethane, nitrous gases, and nitro explosives. In Memorandum VIII dealing with special industrial diseases, the Committee usefully draws attention to the existing regulations established by the Home Office in 1901 in regard to the risks of contact with lead, but it does not appear that the handling of bullets give rise to serious lead poisoning. The symptoms of poisoning due to tri-nitro-toluol (T.N.T.) are described and measures for minimizing the risk are outlined. Similarly the eczema arising from contact with tetryl, or tetra-nitro-methyl-aniline is referred to, and here again protective measures are suggested. The Committee refers to the various leaflets and memoranda, dealing in greater detail with industrial diseases and their prevention, and issued by the Factory Department of the Home Office, and in many directions they have relied upon the assistance of Dr. T. M. Legge, the senior medical inspector at the Home Office, whose wide experience has been of the greatest value. In Memorandum IX,

which discusses ventilation and lighting, the Committee sets out considerations and suggestions which, it hopes, may prove of assistance to those responsible for the ventilating, heating and lighting of old factories, and for the planning of new factories and workshops. In Memorandum X it inculcates the importance of two cardinal principles: that the prevention of disease is better than waiting till it has to be cured; and that treatment to be effective must deal with disease at its beginning, steps being taken to secure recognition of its presence at an early stage.

The urgency of the demand for increased supplies to our armies in the field has been the cause of the evils which have arisen, and it is recognized that injury to the health of munition workers, where it has occurred, has been largely due to their own patriotic zeal. The Committee has rightly laid stress upon the increase or diminution of output as the most direct test with regard to fatigue, and in explaining this has been careful to supply examples from actual experience, which are likely to appeal more directly to many laymen than explanations of the causation of fatigue from the point of view of the physiologist. Excessive fatigue due to overdriving the human machine is thus placed in its true light, not as a hardship which must be endured by the worker for the sake of the cause in which he is sacrificing his comfort or his health, but as an enemy, to him and to the country, which must be guarded against, because it diminishes production and because any loss of health due to it is a useless and wasteful extravagance. Moreover, the Committee recommends that proper management should take account of the output of particular individuals, and explains that where this has been done variations of individual output have been discovered which have been independent of personal willingness and industry. Two good results thus ensue: it has been possible to detect in individual workers superiority of method, obtaining from their example valuable hints for the instruction of others, and also to impose upon each the work best suited to his powers, rearranging and assigning the work in such a way as to secure its most effective performance. In matters appertaining to health, the desirability of watching for early signs of breakdown is insisted upon; in this way only can it be dealt with promptly, so that the worker may return with the least possible loss of time. With regard to accidental injury, explicit instruction is given as to both the institution in a factory of a local dressing station for minor injuries and a central dressing station or surgery for the treatment of more serious cases; the actual treatment which should be accorded in the absence of surgical assistance is

also mentioned. A leaflet issued by the Home Office is appended here, containing explanations of a practical character as to what should be done and (of equal importance) as to what should not be done by the injured worker and those in his immediate neighborhood in order to avoid sepsis and the conversion of a slight hurt into a serious one. In the matter of ventilation and lighting, with the cognate topic of heating, the Committee has recognized the fact that the problems to be dealt with must depend largely upon the particular circumstances of each case, and has set out considerations and suggestions in the hope that they may prove of assistance. The essentials of good lighting are summarized and means are proposed to secure its adequacy, with uniformity of illumination, with protection for the eyes of the worker, and with the avoidance of unnecessary shadows upon the work. Fortunately, as the period of daylight is now increasing, and summer draws near, questions of lighting and heating workshops and factories will become for a time easier of solution, but a considerable amount of night-work will still have to be done, and both by day and night bad lighting has as its results headache and other effects of eye-strain, as well as a diminished output. Ventilation, we are inclined to think, is a more difficult problem for the factory manager to deal with than even lighting, although it, too, becomes easier in warm weather than in winter. The Committee insists upon the necessity for a stimulating as well as a clean atmosphere for workers, but the stipulation of moving air is perhaps not unnaturally liable to be resisted by the workers when the breeze is introduced from outside at a temperature many degrees lower than the interior where they are congregated.

May we express the hope that the weighty precepts which the Committee desires to inculcate will win intelligent appreciation beyond the limits of Mr. Lloyd George's jurisdiction as Minister of Munitions? If we leave out the passages referring to accidental injuries, there is little in the Memoranda upon which we have commented which might not be applied with equal force where work is being done in offices under various other departments in connection with the war. A large host of clerks, typists and other sedentary workers of both sexes is being employed, and has been ever since the war broke out, in operations which require unremitting attention, and for spells which have no parallel for similar occupations in time of peace. For these men and women unduly long hours, lack of weekly and other holidays, excessive night-work, bad lighting and bad ventilation are no less to be deprecated than for the more laboriously occupied munition

worker. And the result must always be the same with all classes of workers—injury to health, temporary or permanent according to circumstances, so far as the individual is concerned, and as far as the public is concerned diminished efficiency, retarded production and waste of money in paying for that which affords no adequate return.—*The Lancet.*

ANTITYPHOID INOCULATION IN THE ARMY

Mr. King asked the Under Secretary for War whether it was intended to inoculate with antityphoid serum all or any men who might be compulsorily attested under the operation of the Military Service (No. 2) Bill.—Mr. Tennant replied: I think the men in question will be in the same position as men who undertake voluntary enlistment.

Mr. W. Thorne asked the Under Secretary for War whether he could now give the figures showing the number of cases of, and deaths from, typhoid fever, showing separately inoculated and uninoculated, among officers and men of the British Army in the United Kingdom and in France and Belgium since August 1st, 1914, and the date to which the figures were compiled.—Mr. Tennant replied: The figures I have cover the period from the commencement of hostilities to Nov. 10th. During this period 1,365 cases of enteric fever were reported as having occurred amongst the British troops in France and Belgium. Of these 1,150 cases have been definitely diagnosed after bacteriological examination. In 579 cases where there had been inoculation there were 35 deaths, and in the 571 cases where there had not been inoculation there were 115 deaths. In the United Kingdom, from August 1st, 1914, to Oct. 30th, 1915, 540 cases of enteric fever were reported and 87 deaths. Thirty-nine per cent. of these cases occurred in men who had not been inoculated, but I cannot say how the deaths were distributed amongst the inoculated and uninoculated respectively. For paratyphoid no system of inoculation has yet been adopted.

Dominion Medical Monthly

And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH

Periodic Medical Examinations are coming in industry, and in old-line life, and fraternal insurance. It may be some years before this conservative plan takes root, but a start has been made. The day of their adoption may be hastened if the medical profession makes it its business to see the matter well along and through to the end.

The Canadian Fraternal Association is an organized body of the leading officers of some eighteen societies doing insurance business in Canada. At their recent annual conference in Toronto, the association unanimously adopted a resolution presented from the medical section. which calls upon all the fraternal organizations to educate their members toward the periodic medical examination.

Medical men, who are members of these societies, should see to it that there is no erroneous conception of the value of the periodic medical examination, and should unite in promoting this distinctive policy of the conservation of human health and human life.

The Control of Cancer in Canada must soon be stamped with the authoritative work of medical officers of health, backed by the intelligence of the medical profession. Dr. Hastings, M.O.H., Toronto, has recently been elected a director of the American Society for the Control of Cancer, and as president of the Canadian Public Health Association, will, no doubt, inaugurate a movement for the control of cancer in Canada.

Medical officers of health, and the medical profession must not let the grass grow under their feet. They should ever sense every new appreciation of the public for a tighter rein upon the gallop of disease in the human being. Their finger should be constantly on the public pulse; ever ready to advance when the people show the slightest evidence of interest in any health movement.

The life insurance corporations are progressive people. "The Mortality of Cancer Throughout the World," by Hoffman, issued by the Prudential Press, is a voluminous book, with a mass of statistics and information on the subject of cancer. Some conception of the mortality in Canada may be gleaned from this source: Province of Ontario in 1913, 1,806 deaths, rate per 100,000 of the population, 69.4; City of Toronto, 336 deaths; rate, 81.9; City of Montreal, 283; rate, 54.9; City of Quebec, 1912, 45 deaths; rate, 56.8; City of Winnipeg, 1913, 95; rate, 53.5; British Columbia, 1913, 159; rate, 36.5; Nova Scotia, 1913, 348; rate, 69.4; Prince Edward Island, 1914, 46; rate, 50.8; City of St. John, N.B., 1913, 38; rate, 88.6.

Acute Industrial Poisoning demands study by those physicians who may be expected to be called in emergency cases in the industrial centres. Whilst many papers, monographs, reports and some books, have appeared within late years upon the subject of industrial or occupational diseases, there is yet considerable chaos concerning the entire subject. The physician needs to know first how to diagnose and handle the acute cases promptly. He must make a study for himself of those industries in his im-

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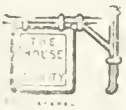
mediate neighborhood and the hazards thereof, as well as the poisons employed in them. When he turns to the books in the pursuit of this knowledge he will be disappointed. Instead of finding the industries classified alphabetically easy to determine what ones he wishes to study in particular, he will find classifications according to the poisonous substances. Thus, he will find it a rather laborious study to sift out the industries and the hazards in them which he wishes to qualify himself upon; but there is nothing else for him to do. There are, of course, acute, sub-acute, and chronic poisonings. The former are accounted accidents; the latter, acquired gradually, count as illnesses, and therefore have to be diagnosed from other chronic diseases. The study of the chronic cases may be pursued gradually. Where, as in acute cases, a diagnosis has to be made upon the spur of the moment, a physician called to a certain industry, should have specific knowledge of the particular poisons and hazards apt to occur in that industry, in order to institute prompt methods for treatment. From the practical standpoint there is not much value to him in learning of poisons and hazards which will scarcely, if ever, occur in his practice or which may not even ever occur in the town or city in which he resides. For a practical reason, therefore, industries should be classified alphabetically in books upon occupational diseases, so that every physician may easily familiarize himself with the requirements of his own immediate environment.



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Reviews

Diseases of Nutrition and Infant Feeding. By John Lovett Morse, A.M., M.D., Professor Pediatrics, Harvard Medical School, etc., and Fritz B. Talbot, A.B., M.D., Instructor in Pediatrics, Harvard Medical School, etc.

This book was written to meet what the authors deemed to be two distinct needs in Pediatric literature—a detailed description of the scientific basis of rational infant feeding and a description of infant feeding as taught by those of the great Boston College. We know of no man of greater experience and more competent from every standpoint to exploit this subject than Dr. Morse, and his collaborator, Dr. Talbot, is known throughout the continent as one of the most learned and practical laboratory men in the profession. Such a team of earnest workers could not fail in bringing out a work of the greatest value to any student, whether an undergraduate or an old practitioner. We cordially recommend it a place in the library of any man having to work with infantile ailments and feeding. Having read the opening chapter on the physiology of digestion one recognizes having a book of more than ordinary calibre. Chapter by chapter reveals a wealth of experience and original research with conclusions arrived at of the most convincing and enlightening character. It is well worth the money. The Macmillan Co. have produced the work in their usual excellent manner.

A New Treatment for Gonorrhea. By Charles Russ, M.B., M.R.C.S., L.R.C.P., London: Physician in Charge the Electro-Therapeutic Department, The Male Lock Hospital, London Price 3 shillings net. London: H. K. Lewis.

This book treats of: The Disease; Various Methods of Treatment; The Conditions of Recovery; Treatment by Electrolysis; Chronic Gonorrhea; Some Electro-Chemical Considerations. The writer claims for the electrolysis treatment: 1. Emptying the urethra and its recesses of the gonococci. 2. The organisms are being killed *in situ*. 3. The organ is being congested with blood, and the antibodies are in this way given full play at the centres of the mischief.

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The Pathology of Tumors. By E. H. Kettle, M.D., B.S., London, Assistant Pathologist St. Mary's Hospital, etc., etc. With one hundred and twenty-six illustrations. London: H. K. Lewis & Co.

The author has presented herein the chief points bearing on the general and special pathology of Neoplasms. Whilst the author has compiled from various text books and articles in scientific journals, he has had prepared especially for this book the illustrations. These are mainly from his personal observations.

The Mortality From Cancer Throughout the World. By Frederick L. Hoffman, LL.D., F.S.S., F.A.S.A., Statistician The Prudential Insurance Company of America. Newark, New Jersey: The Prudential Press.

This is a volume of 826 pages. One can best understand what it embraces by a perusal of the chapter titles. The Statistical Method in Cancer; The Statistical Basis of Cancer Research; The Increase in Cancer; Mortality from Cancer in Different Occupations; Cancer as a Problem in Life Insurance Medicine; The Geographical Incidence of Cancer Throughout the World; The Statistical Data of Cancer Frequency in American States and Cities; The Statistical Data of Cancer Frequency in Foreign Countries; Some General Observations and Conclusions on the Cancer Problem. There are 21 charts. An appendix, dealing with tumor classification, records, mortality by occupations, etc., etc. Also, a complete bibliography, an index of authors, and an index of subjects. The author has constructed a very valuable book upon a subject of such wide and universal interest.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume V, Number II (April, 1916). Octavo of 176 pages, 32 illustrations. Philadelphia and London. Published Bi-Monthly. Price per year: Paper, $8.00; Cloth, $12.00. W. B. Saunders Company, Philadelphia, London.

There are some excellent articles, or reports, in this number, especially on tendons, and phlegmon of the spinal cord. The illustrations are, as usual, excellent. There is also something of interest on orthopedic surgery.

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Publisher's Department

In investing money there is a great tendency for a doctor to plunge into real estate or stock speculation. Sometimes these enterprises turn out successfully and profitably, but more often it means that when you hand in your cheque it is the last you see of the money, except perhaps to have calls for more money to look after the first. A dollar is pretty much like a man or a horse. It can only do a certain amount of work. If it is overworked it is liable to play out. If it does too little it is rather a luxury. With proper conditions it can do a great deal more if it is started off at the right time and in the right place than at other times. It would seem that the present is an opportune time to start any idle dollars to work for you. What with the great demand caused by the war and improving business conditions, a dollar can earn more with just as much ease as it could do at any time for a long while. Municipal and Government Debentures have so far proved the safest place to have money invested, and the yield is now from 5½ per cent. to 7½ per cent. Messrs. C. H. Burgess & Company, Traders Bank Building, Toronto, make a specialty of dealing in Municipal Bonds.

Silvol: A Notable Germicide.—For application to mucous surfaces as a germicide, silver nitrate has long been recognized as a distinctly meritorious agent. It has had one serious drawback, however—its use in solution frequently caused irritation. Finally, as was to have been expected, the art of the chemist has overcome this objection. The combination of silver with a proteid base robs the former of its irritating effect. At the same time there is no loss of antiseptic value.

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appears in the December issue of the *Journal of Ophthalmology and Oto-Laryngology* and is from the pen of William C. White, D.D.S., Ph.G., M.D., of the University of Louisville.

Dr. White describes Silvol as "a metallic silver in colloidal combination with a proteid base, and slightly alkaloidal in reaction. It occurs in black, metallic, lustrous scales, slightly hygroscopic and very readily soluble in water. In solution it gives a rich seal brown color and produces only a temporary stain to clothing or dressing, which is completely removed by rinsing in warm soap suds. The preparation is so soluble that it requires only a moment to make the necessary solution. It is practically non-irritating in any reasonable dilution. The solution does not require filtering; and I wish to emphasize this fact, as it has been my experience with other similar products, especially in heavy solution, that a tarry substance will appear upon the surface, and, unless this is filtered out, it produces more or less irritation to the sensitive mucous membranes upon drying, leaving a very disagreeable burning or smarting sensation to the parts. None of my patients complained of pain or showed any irritation when a ten per cent. solution was used; on the contrary, they have expressed a feeling of comfort and a soothing sensation immediately following the application."

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"(a) To give the gastro-intestinal tract physiological rest."

"(b) To remove as much as possible of the infective elements."

"(c) To stimulate natural defenses."

"(d) To reinforce these natural defenses with local antisepsis."

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Dominion Medical Monthly
And Ontario Medical Journal
Vol. XLVII. TORONTO, JULY, 1916 No. 1

Original Articles

THE ONTARIO MEDICAL ASSOCIATION: PRESIDENT'S ADDRESS

By H. B. Anderson, M.D.

In accordance with the Constitution of the Ontario Medical Association, it is the duty of the President to address the annual meeting, setting forth the condition of the profession in the province. The difficulty confronting one at this time is not to find topics suitable for discussion, but rather to select from among the multitude of important matters which suggest themselves those of most immediate and pressing interest, and attempt to consider them with due regard to their relative importance. While I deeply esteem the honor of having been elected to the presidency of the Association, one cannot but appreciate the difficulty of doing justice to the position, or of rising to the responsibilities and opportunities of so critical an occasion in our national and professional history.

We are meeting at a time pregnant with the most momentous issues since the dawn of the Christian era, under the shadow of the greatest calamity in history, with our Empire and her Allies engaged in a death struggle to uphold the cause of freedom and justice against a military despotism which, in the guise of kultur, is seeking world power with the ethics and by the methods of the barbarian.

Those who have admired, perhaps too highly, German learning, scientific achievement, energy and genius for organization, have lived to see all of these directed by an ambitious and cruel autocracy, abetted by subservient professors, clergy and publicists, and prostituted to the basest of material ends. As members of a profession which has acclaimed German discoveries that have saved thousands of human derelicts, we must hereafter charge the autocratic system which encouraged their scientific achievements with the subordination of all the resources and capabilities of the nation to an aggressive war, which has led to the slaughter of millions in the flower of manhood; and reflect-

ing on this we shall in future be more appreciative of the blessings of democracy, even with its attendant muddling and inefficiency. Well may we pray to be delivered from the blessings of kultur and efficiency if they must be acquired by the sacrifice of freedom, of honor, and of those principles of religion, ethics and morality which have served in the past as standards by which men and nations are judged.

In the presence of these great events monopolizing the attention and absorbing the energies of our people, all other interests fade into insignificance. And yet we must not neglect "the daily round, the common task," as we look with confidence beyond the present struggle, but prepare ourselves in every department of our national life for the stern competition of the period of reconstruction and advancement which will inevitably follow.

On this occasion we miss the familiar faces of many of our colleagues who in answer to their country's call are now on duty overseas, in the Motherland, in Flanders, France, Greece and Egypt, and we are proud of their record. "The members of the Canadian Army Medical Corps," as recorded by the official historian in describing the battle of Ypres, "rivaled in coolness, endurance and valor the men of the battalions who were their comrades."

Important duties also have fallen to those who are left behind, in organizing and manning the medical services of units preparing for active duty; in ministering to the medical necessities of the dependents of our soldiers, and not least, in giving their services for the restoration to health and usefulness of the sick and wounded who are returning from the front. The burden cheerfully undertaken by the medical profession of Canada has been a heavy one, and we believe has been creditably borne.

I feel assured indeed that I express the feeling of every member of this Association in saying that we regard it not only as a duty, but a privilege to do what we can toward the restoration to health and usefulness of our brave countrymen now returning, whose heroic deeds have won imperishable fame for themselves, and shed enduring lustre on our country. To them Canada may fittingly apply the words of the poet of the Yukon:

"I will not be won by weaklings, subtle, suave and mild,
But by men with the hearts of Vikings and the simple faith of a child;
Desperate, strong and resistless, unthrottled by fear or defeat,
Them will I gild with my treasure, them will I glut with my meat."

An unusual feature of the present meeting will be the military session arranged with the collaboration of the Military Hospitals Commission and the officers of the Army Medical Corps in this district. While there will be a number of papers on medical topics of present military interest, the chief purpose of the session will be a discussion of the "invalided soldier problem" in all its bearings, so as to bring before the doctors of the province the importance of the question and the aid which they can render toward its solution. That our efforts so far are not unrecognized is evidenced by a letter recently received from the chairman of the Military Hospitals Commission, in which he says—"that the Government of Canada is indebted to the Ontario Medical Association for its interest and to the medical profession for the splendid spirit which they have shown."

If our deliberations assist in co-ordinating the military, medical, vocational and employment aspects of the situation, and in evolving a more efficient and uniform system of management in the various Military Convalescent Hospitals and subsidiary institutions, an important object will have been attained.

The war has brought us many disillusionments, has impressed many stern lessons, given us a wider national perspective, a keener vision of the responsibilities of citizenship, and stimulated a wholesome spirit of sacrifice to the common good. Those who have seen the beneficial influence of military training on the development of the physique and discipline of our young men, whatever may be their views regarding compulsory service, are unlikely hereafter to overlook the advantage to the nation, not only in a military but in a material way, of compulsory military training. A properly trained and disciplined manhood will not only increase individual efficiency for civil duties, but will go far to solve the problem of national preparedness.

We are indebted to Professor Blackader for having brought forward another lesson of the war, viz., the question of drugs and medicinal agents from the national, economic and professional standpoints, a matter which should receive the serious attention of the Association. Who can estimate the influence on the present war of the amazing lack of foresight which permitted Germany to appropriate to her advantage the discovery of the aniline dyes by Sir William Perkins? This one shrewd deal added a billion dollars a year to the national wealth of Germany, increased immeasurably her scientific prestige, gave her first place in the world's trade in drugs and dyestuffs and assured her early in the war the advantage in high explosives. The responsibility

for so great a blunder does not rest upon our profession, though we must admit that no feature of the centrally organized and far-reaching system of pan-German propaganda has been more successful than the exploitation of the university men of other countries in the interests of her campaign for military and commercial supremacy. No one will be disposed to speak lightly of the value to medicine of the scientific output of German laboratories, though we may properly plead for a more discriminating judgment in separating the wheat from the chaff, and especially for a less complacent acceptance of the literature of German commercial houses as the gospel of science.

Neither should we recognize a dual system of medical ethics under which state-controlled professors in German clinics may advertise in text-books and trade literature patented or trade-marked preparations, in a manner contrary to our code, nor should we allow ourselves to second their efforts by prescribing those products as if there was some peculiar virtue attached to all things medical emanating from the fatherland. Now, when the spell of the superman is broken, when even our academic Olympians, beguiled by flattery or tempted by self-interest, are perhaps aware of the true inwardness of German intrigues, and when those who control our universities are awakened from their dreams of an era of scientific advancement under the direction of exchange professors approved by the Prussian Ministry of Education, will be an opportune time to consider more sympathetically the rights, interests and scientific possibilities of our own people.

More especially should we oppose the sale of common drugs, marketed in fancy packages under fancy names and at fancy prices. Some of these abuses can be controlled by legislation; some by a stricter adherence to our ethical code, or, if necessary, by revising it so as to be fairer to our own manufacturers; much can be done by an educative campaign, not only for the benefit of the medical profession but the public, to make known the kind of competition we have to face and the best means of meeting it; and perhaps most important of all, by our medical schools giving to students a more thorough grounding in practical therapeutics, such that they may not be left after graduation to be instructed in the use of drugs by the literature and agents of manufacturing chemists. The medical and pharmaceutical professions should be more closely in touch with the manufacturers and exercise more control over their products, by encouraging their legitimate activities and enlisting their assistance in supplying

real professional needs. I am fully convinced that a more sympathetic co-operation should replace the present aloofness of our professional and scientific men from manufacturing and commercial interests, and that this could accomplish much for the benefit of all concerned. The medical profession should learn, however, to place its dependence on the carefully appraised preparations in our national pharmacopeias, which should contain all really useful remedies, rather than in the commercially-biased catalogues of drug houses, with their too-frequent irrational polypharmacy. Other countries should not forget that in Germany everything is subordinated to military efficiency, and that in supporting even her legitimate activities, they are contributing to her aggressive designs.

In the task before us we should cultivate a self-respecting national spirit, avoiding equally the attitude of the superior cosmopolitan,

> "The sturdy patriot of the world alone,
> The friend of every country but his own,"

and the reverence for antiquated inefficiency and smug self-confidence, which at times parade as patriotism. Neither should we be so blind to our own interests as to neglect to profit by the lesson Germany has given us of the necessity for laborious study and investigation, of strenuous and concerted effort, scientific organization and co-ordination of national aims, and the value of their direction by experts in the different spheres of activity.

Turning to matters of local interest, the most important are those being considered by the Commission on Medical Education, appointed last autumn by the Provincial Government. It is expected that the report and recommendations of the Commission will be made the basis for legislation which will settle many important questions that have been pending for some years.

Foremost among the questions being considered are all matters relating to education for the practice of medicine in the province. Recent years have witnessed a rapid evolution—the passing of the old proprietary schools, the lengthening of the course of medical study, the addition of many full time professors to the teaching staffs of our schools, the extension of laboratory facilities for the teaching of the fundamental sciences, the beginning development of libraries and the erection of commodious hospital buildings. As in other parts of the English-speaking world, the course of events with us has been influenced by the reports on medical education of the Carnegie Foundation

and the Royal Commission of the British Government. The contention, on pedagogic grounds, that medical education should be considered an educational rather than a medical question, thus separating teaching more widely from practice, the movement for the appointment of full time professors in the clinical departments and the far-reaching schemes of Germany to create centres of propaganda in our universities, have all been lively topics of interest. In the midst of this evolutionary unrest the outbreak of the war has added to the confusion, and the most sanguine would scarcely claim that a satisfactory conclusion has yet been reached. Thus far we appear to have adopted a compromise between the British and continental systems, incorporating the worst features of both and the advantages of neither. The clinical branches in our hospitals still suffer from the lack of laboratories, properly equipped and manned for the study of the problems of the wards. Those having the interests of clinical progress at heart, however, will confidently expect the fulfilment of the Government's promise that the inquiry will be an exhaustive one, that all interested will have an opportunity of expressing their views, and that the Commissioner's report based thereon will remove many defects in our present system of organization.

The position taken by the representatives of the Ontario Medical Association and other medical organizations, regarding the legislative recognition sought by osteopaths, chiropractors and other cults, upholding the principle of a uniform standard of education and examination for all who wish to practise medicine in the province, is well known, and calls for no special reference on this occasion.

Never in the course of history has there been such a demonstration of the national importance of a thoroughly trained medical profession as during the present war. The service which scientific medicine has rendered in protecting our soldiers against typhoid fever, dysentery, cholera and other scourges of armies, has saved tens of thousands of lives and trebled military efficiency.

Ask our wounded soldiers who have been made oblivious to suffering during operations under ether or chloroform, or whose pains have been eased by morphia, what they would think of "drugless treatment" at the front? Should our colleagues then, who under danger and privation are rendering such services, at great personal sacrifice, have their interests at home unnecessarily jeopardized by the granting of special privileges to the

uneducated or poorly trained output of foreign proprietary institutions, that are unable or unwilling to meet the requirements for preliminary education and professional training, exacted of the graduates of our own and other recognized universities? Let us remember, however, that it is not sufficient that we ourselves are assured that we seek only what is just, and in the public interest: we must be prepared to defend our cause, keeping in mind the words of Sir Thomas Browne "that a man may be in as just possession of truth as of a city, and yet be forced to surrender" if unprepared to back up his principles by intelligent action.

It would be well at this critical juncture in our professional history to recall the chaotic condition of medical affairs which existed in the province prior to the organization of the College of Physicians and Surgeons in 1866. At that time the public clamor for protection against the prevalent quackery forced the government to take action, and the universities and different medical bodies to unite in establishing a representative institution of the profession to control the curriculum, examinations and practice of medicine in the province. The lapse of time, and the criticism frequently directed against the management of our affairs by the College of Physicians and Surgeons, has caused some to forget too readily "the pit whence we were digged" and the large amount of valuable constructive work which we owe to that body. The medical profession of the province should be slow to admit its own incapacity for self-government. For this reason I believe the movement to make the medical degrees of our universities qualify the holders for the right to practise, is to return to a system which has proved a failure in the past and from which the universities, the profession and the public at large all sought deliverance. We should, therefore, endeavor to maintain the *entente cordiale* and to co-operate for the general good, rather than by magnifying difference, cause a cleavage between the universities and the profession and thus leave ourselves more vulnerable to attack by the enemies of medical progress.

The adjustment of difficulties arising out of the present duplication of examinations should be possible without such radical changes as would endanger the rights and privileges of self-government now enjoyed by the medical profession.

In some of our universities the non-clinical departments, those having in charge the fundamental scientific and theoretical rather than the practical aspects of the training of students, it

is well known, exercise a preponderating influence, and clinicians and practitioners alike should view with misgivings any tendency to place the control of the profession more fully in the hands of those who neither by training, experience nor circumstances are closely in touch with the requirements for efficient practice.

Another live topic for discussion at present is the administration of the Workmen's Compensation Bill. This law has now been over a year in operation, and has occasioned much dissatisfaction and resulted in many protests from medical practitioners, who have been either inadequately remunerated or unpaid for their services. The injustice of the bill has not yet been fully experienced, because many manufacturers still pay the medical attendant for his services to employees, as they did before the inauguration of the present law.

It is satisfactory, however, to state that both the Compensation Board and the Government, aware from experience elsewhere that the hearty co-operation of the medical profession is essential for the success of the scheme, have shown a willingness to consider fairly the grievances complained of and to adjust matters on a more equitable basis. The failure to pay properly for medical attendance has naturally resulted in a large surplus in the first year's operation of the scheme, which makes it imperative for us to press for fair consideration at this time. It would be regrettable if any avoidable friction arising from a sense of injustice should impair the usefulness of a progressive and necessary measure.

The question of medical fees, a subject of perennial interest to both the public and the profession, is one of the matters being considered by the Commission on Medical Education, and I may, therefore, be pardoned for referring to it. Whatever truth there may be in the complaint against excessive fees charged in individual instances, it can be stated without fear of contradiction that the remuneration of the great body of practitioners has not begun to keep pace with the expense of acquiring a proper medical education and the increased cost of living in the province. A comparison with tariffs published in Toronto in 1839 and 1886 will prove that in many cases fees are actually lower now than at those periods. Nor have ordinary medical fees increased in proportion to the cost of maintenance in the public or private wards of hospitals. One cannot but sympathize with the burden imposed on people with moderate incomes, in procuring proper medical and surgical attendance, hospital accommo-

dation and nursing under present conditions, but the fault lies with the other developments of modern practice more than with the doctor.

It is well known that no body of citizens has labored so unremittingly for the promotion of preventive medicine and the public health, regardless of their own financial detriment. The medical profession also has borne without complaint the burden of attendance on the indigent sick, and too frequently as well, on impostors, who pass as such in order to escape their financial obligations. We may justly claim that mercenary motives have always discredited a man in the eyes of his professional colleagues, and that he who would make the acquirement of gain the chief object of his calling would be well advised to seek another field for his labors.

In no class of illness is the financial hardship so apparent as in the management of nervous and borderland psychopathic cases, in which the usual prolonged duration, the necessity for constant attendance of nurses and the procuring of suitable accommodation, often tax the resources of the family to the utmost degree. I believe that general experience warrants the statement that one of the most urgent needs in the province at the present time is the provision by the Government of suitable accommodation at a moderate price for the proper control and treatment of borderland nervous cases, incipient or temporary insanity, inebriates and drug habitues.

The complaint is heard occasionally among our more prosperous citizens that, like the butcher and baker, the doctor should charge the same fees to rich and poor, but if they would recall the fact that the poor to a considerable extent receive free treatment, the impossibility of adopting such a rule would be obvious.

I hope I may now be pardoned for referring to something more in the nature of a family affair, viz., the disproportion between the remuneration of the surgeon and specialist as compared with the physician and general practitioner. This is freely admitted by all, and the opinion was embodied in a report adopted by the Ontario Medical Association a few years ago. This disparity is undoubtedly one of the causes underlying the pernicious custom of fee-splitting, by which less scrupulous members of the profession arrange a secret adjustment of the difficulty—a practice we believe never very common in this province, and of which happily even less is heard in recent years.

There seems no good reason why the present inequality should continue. The basis for remuneration of physician or

practitioner and surgeon in a case should be the relative value of services rendered. The present custom, in cases requiring surgical operation for their relief, tends unduly to exalt the mechanical or technical phase of the operative procedure, and to minimize the importance of the preliminary investigation, the diagnosis and the after treatment. This is certainly not in the interests of either medical or surgical progress. The properly trained practitioner or physician to whom the patient first applies for relief should be the one most competent by training as well as circumstances to direct the latter aspects of the procedure, recalling the surgeon for consultation if in his judgment the interests of the patient require it.

Under such a plan it could be arranged to have the fee charged in a given case cover the whole procedure of preliminary investigation, diagnosis, operation and after treatment, and the remuneration of practitioner and surgeon determined by a previously considered and established value attached to each part of such a procedure. Under all circumstances the interests of the patient should be considered of first importance; there should be no secrecy, and the relative remuneration of each attendant should be determined by the services actually rendered and in accordance with a generally accepted rule. I suggest this merely as a possible equitable and ethical basis of adjustment in keeping with the interests of the patient, and fair alike to medical and surgical attendants.

In reviewing the present condition of medical affairs one cannot overlook the nursing problem, which is one of increasing difficulty, especially in private practice. Training schools for nurses connected with hospitals throughout the province have accomplished admirable results in raising the standard of training and supplying highly qualified professional nurses.

One must regret, however, a tendency, especially among recent graduates, to limit their professional work to hospital or other selected practice, where the work is easier, rather than to answer the call of duty wherever it may be. This is not in keeping either with professional ideals or a correct sense of duty, and if continued will assuredly tend to lessen the usefulness of the nursing profession and lower it in the public esteem. It is a custom which should be discouraged alike by hospitals, training schools and the profession at large. I would suggest a lower scale of fees for those who will undertake only selected work, as a practical means of remedying the difficulty.

Important progress in the domain of public health may be reported during the past year. Through the generosity of Col. A. E. Gooderham, the Department of Hygiene of the University of Toronto has been enabled to undertake the manufacture of various antitoxic sera and vaccines, and by the enlightened and public-spirited action of the Provincial Government, arrangements have been made for the gratuitous supply of these products through the profession. In this way will be placed more readily at the disposal of medical men the means provided by modern scientific investigation of dealing with different infective diseases.

It is also worthy of note that a local manufacturing company is now furnishing a product—diarsenol—which experience has shown to be a satisfactory substitute for diarseno-benzol. The commendable attitude of scientific and clinical men of the university staff in promoting this enterprise stands in pleasing contrast to a lack of encouragement heretofore frequently complained of, and, we trust, marks the beginning of a new era in the evolution of a policy of general application, rather than being merely one of the vagaries of the fairy godmother.

It is a matter of satisfaction to the profession that arrangements have been completed during the past year providing for reciprocity in medical registration between Great Britain and this province.

In order that we may be able to bring the corporate influence of the profession to bear in maintaining the status of medical practice, in directing aright the many problems now in course of adjustment, and in guaranteeing to the people the increasing benefits of modern practice, it is essential that we be well organized. I am glad to report that much progress has been made in this direction during the past year, and that we now have a fairly complete provisional organization throughout the province. Thirty-five local city, town or county societies are at present in existence, and ready to affiliate with the Ontario Medical Association. A provisional constitution has been drawn up to be submitted for the consideration and approval of the Association. There is still in some quarters a remarkable apathy to matters of crucial importance, but signs are not wanting of an awakening, which it is the duty of this Association to hasten.

We are pleased to have with us on this occasion the Executive Council of the Canadian Medical Association, and trust that our combined meeting may help to remove misunderstandings and to strengthen the bonds between the two Associations.

May I also express to our distinguished American visitors the great pleasure their presence affords us, and how much we appreciate the readiness they have shown to contribute to our programme, especially at a time when we are handicapped by the absence of so many of our own members. We take it as a further evidence of the feeling of kinship, common interest and sympathy existing between our countries, and which is so happily marked this year by the celebration of a century of peace.

It may be of interest to you gentlemen from the neighboring republic to know that there is now in this city a regiment of eleven hundred of your countrymen preparing to enter the fight to uphold those principles of freedom and justice dear alike to your country and our own.

We in Canada share a common belief that after the war the great centre of scientific medical interest and activity will be on this side the Atlantic—American in the widest application of the term—and those who have watched the wonderful progress which medical science has made in the United States in recent years will have no misgivings as to your qualifications for leadership.

To our fellow-countrymen who have come back after winning distinction in medicine under another flag we extend a hearty welcome. You will not find the Canada you left a few years ago the Canada of to-day, but a country chastened by recent experiences, conscious of great responsibilities, purged of many faults, yet quickened in every fibre of her national life, proud of her sacrifices for the Empire and humanity, and confident of her future.

It is a part of our national creed that what the nineteenth century was to the great neighboring republic the twentieth century will be to Canada.

The foundations of medicine in Canada were laid a century ago by the army surgeons who saw service in the war against Napoleon, and we may look for a similar influence in our further evolution to be exerted by those of our number now in service in the greater struggle against the Kaiser. The spirit of freedom and love of liberty which has called them to duty overseas will return with them accentuated by their experiences, to withstand injustice and tyranny from whatever quarter it may appear, to oppose weak submission to wrong and to assist in promoting a worthy national sentiment.

In conclusion, may I express to my fellow-officers of the Ontario Medical Association my deep sense of obligation and gratitude for the loyal support and co-operation accorded me in arranging for this meeting, under difficult and at times discouraging circumstances.

THE ONTARIO HEALTH OFFICERS' ASSOCIATION

The fifth annual conference of the Health Officers of Ontario was held at the University of Toronto on the last two days of May. Dr. A. J. Macauley, Medical Officer of Health of Brockville, Vice-President, presided in the absence of the President, Dr. Macpherson of Peterborough, on active service.

The first forenoon of the meeting was taken up in a lengthy and animated discussion of measles following the reading of a paper by Dr. M. B. Whyte, Superintendent of the Isolation Hospital, Toronto, upon "The Quarantine Period for Measles." Dr. A. Dalton Smith, Medical Officer of Health of Mitchell, and Dr. V. A. Hart, Medical Officer of Health (Vespra), Barrie, also presented papers upon "Measles" and "Should the Breadwinner Be Quarantined?" The concensus of opinion seemed to be that the present quarantine of three weeks with a sixteen-day exclusion from school following exposure was of too great length. It is generally considered that measles is infective for from three to five days before the rash appears and for not longer than seven days following the rash, perhaps even shorter than seven days: that the exfoliation, third persons and fomites do not carry the disease. Second attacks are quite rare, consequently persons who have had the disease need not be quarantined. Those who have not had the disease should be held under quarantine for two weeks after last exposure. Those who suffer from the disease should be quarantined for seven days after rash appears unless there are discharges or nose bleed.

The discussion of this subject will probably induce the Provincial Board of Health to make some relaxation in the present regulations.

Dr. Fred Adams, Epidemiologist of the Toronto Health Department, read a paper entitled "Some Observations on Typhoid Fever in Toronto," in which he outlined the means taken to produce the much-lessened incidence as well as the death-rate from this disease in the last six years. In 1910 the death-rate from typhoid in Toronto was 40 per 100,000. In 1915 it had reached the phenomenally low rate of 1.9 per 100,000, the lowest rate for any of the large cities of America. The chief factors in this condition of affairs were announced to be: chlorination of the water supply, pasteurization of all milk except certified milk, and the campaign against flies and outdoor privies.

The Health Department of Toronto deserves the strongest commendation for its success in abating this preventable disease.

Dr. J. G. Fitzgerald read a short paper upon "Epidemic Cerebro-Spinal Meningitis," giving the marked features of the disease and advising the necessity of its early recognition by means of spinal puncture. The treatment is by repeated puncture and injection of anti-meningitis serum, with careful feeding, guarding against relapses, and the use in persistent cases of autogenous vaccine.

The occurrence of this disease among the troops has given peculiar advantages to those studying the disease, for the reason that it is diagnosed early and energetically treated. During the past season all the cases among troops in Military District No. 2 have recovered.

At the afternoon session the acting President, Dr. Macauley, gave an interesting address dealing with the value of the free distribution of antitoxin and other biological products by the Provincial Board of Health. He also referred to the necessity of the prevention of pollution of public water supplies, and described how his own town of Brockville was proceeding in the direction of a safe water supply.

The feature of the session was a paper by Dr. W. H. Park, Director of the Public Health Laboratories of New York City. Dr. Park has a charming personality and is well-known to public health and medical men as an advanced authority on diphtheria, upon the diagnosis and treatment of which his paper treated.

Dr. Park advised the use of diphtheria antitoxin in large doses. He showed by comparison of results that the intravenous use of antitoxin was much more effective than either the intramuscular or the subcutaneous. In ordinary cases in the child he gives three to five thousand units intravenously. In severe cases five to fifteen thousand units, with correspondingly large doses in the adult. Laryngeal cases require early and large dosage.

Dr. G. R. Cruickshank, Medical Officer of Health of Windsor, read an original and interesting paper upon the subject of "Adenoids and Tonsils," advancing reasons for the belief that these organs are responsible for a great deal of infection in early life.

Following a free discussion of this subject by Drs. Hill, Varden and Dewar, Dr. F. A. Dales, Medical Officer of Health, read a paper entitled "Suggestions for Improvement of Association Meetings," citing the following problems for discussion, viz.:

(1) Are our quarantine methods satisfactory?

(2) What changes, if any, are necessary?

(3) What are the reasons for such changes?

(4) Should there be separate sections to discuss health matters affecting cities and towns and for rural communities?

(5) Salary of health officers.

(6) Payment for reports of births and deaths.

In regard to the latter, it came out in discussion that the reporting of births and deaths was a duty the physician owed to the state, and that, while there seemed to be some ground for the question of payment for reports of notifiable diseases, the physician should have sufficient interest in his patient's baby to notify its birth.

A paper on "Deductions of a New Ontario Medical Officer of Health," by Dr. Edgar Brandon, Medical Officer of Health, North Bay, gave an insight into the necessities and difficulties of Health Officers in the newer and rapidly growing towns of the province, where the influx of foreigners and varied elements make that officer's task no light one.

The public meeting held in Convocation Hall in the evening was largely attended. A most interesting and instructive lecture upon Sanitation in Serbia was given by Major W. D. Sharpe, who served as surgeon with the British Naval Hospital in Belgrade in the first year of the great war. The lecture was illustrated by a large number of slides. He was followed by Capt. Ruggles George, A.M.C., who gave a most interesting story of the first contingent, illustrated by slides which carried the troops through Valcartier Camp, Salisbury, and for some months in Flanders. Capt. George certainly made good use of his spare time and powers of observation while on active service.

The second day's proceedings were begun by an excellent paper upon "Auxiliary Aids in Public Health Work," by Dr. H. W. Hill, Medical Officer of Health, London. In this paper Dr. Hill discussed the various means whereby public health measures may be advanced, laying particular stress upon publicity of public health education by means of lectures, leaflets, moving pictures, health exhibits, newspaper propaganda, etc., etc. The matter received a thorough discussion, among those contributing being Dr. Murphy of Minnesota, Dr. Hastings, Dr. Cruickshank and many others.

Dr. P. J. Moloney, District Officer of Health, read a splendid paper upon "Rural Sanitation," and F. A. Dallyn, Esq., the Provincial Sanitary Engineer, read a portion of an exhaustive paper upon "Methods of Collection and Disposal of Domestic Wastes in Small Municipalities." These papers have very great value, and when they appear in the journals will be read with great interest.

The morning session was concluded by a paper upon "The Treatment of Sewage by Activated Sludge," read by T. Chalkley

Hatton, Chief Engineer of the Milwaukee Sewerage Commission. This paper, which will appear in the Public Health and other journals, should be carefully studied by medical and other municipal officers, as it seems to indicate a comparatively cheap and most effective treatment of one of the greatest problems, viz.: sludge treatment, in the disposal of sewage. Mr. Hatton has contributed extensive experiments in sewage treatment and is an engineer of repute in the United States. His remarks were listened to with more than ordinary interest.

Dr. H. Logan, Medical Officer of Health of Niagara Falls, gave a paper on the "Prevention of Tuberculosis in Children." This was discussed by Drs. Alan Brown, Kidd and Hastings.

Dr. J. S. Nelson of Westboro read a paper on "Water Supply and Sewage Disposal for Suburban Residences," and E. C. Henderson, Esq., of London, described the forms used by him in keeping records of communicable diseases.

This meeting was perhaps the best in point of papers and discussions yet held by the Association. It is intended to hold the next meeting in Toronto on the last Tuesday and Wednesday of May, 1917.

The officers elected were: Dr. A. J. Macauley, President; Dr. T. W. Vardon, Vice-President; Dr. J. W. S. McCullough, Secretary. Committee on Papers and Arrangements—The officers-elect and Dr. W. A. Crain, Crysler: Dr. W. McBain, Rainy River; Dr. J. A. Roberts, Hamilton.

THE HEALTH HAZARDS OF MODERN INDUSTRY

The health hazards of modern industry are emphasized by the new strain of manufacture due to speed, monotony, and piecework, as well as the injurious physical surroundings due to the lack of adequate sanitation in factories, shops and institutions where work is performed.

The nature and effects of fatigue are constantly referred to by writers on occupational disease, and a summary of the present theories as to the origin of fatigue makes patent the importance of hours to repair the tissue damage incident to the expenditure of energy. The bad effects of long hours on safety as well as upon morals and the general welfare merit careful study by the medical profession.

From this very valuable compendium, it is evident that physicians have not been blind to the importance of fatigue as a disease-producing agency. A large proportion of the authorities quoted

belong to the medical profession. It is frequently asserted that physicians have neglected the general subject of industrial hygiene. The compilation here provided would tend to point out the fallaciousness of a statement of this kind. A very large part of the material quoted has been gathered from the writings of physicians in Great Britain, Germany, Austria, France, Belgium, Norway, Switzerland, Roumania, Italy and the United States. The existence of this vast literature was scarcely suspected by those interested in medical sociology and its compilation at this time makes it available to all students of public health.

Here again is further evidence of the important relations between social and economic questions and communal health. Hours of labor have generally been regarded as matters related to questions of strikes and lockouts, labor disturbances or possibly to interesting civic problems in economics and sociology. It is certain, however, that excessive hours of labor constitute a serious medical problem, the understanding of which is especially necessary in order to constructively establish laws and ordinances to protect the community from preventable diseases and accidents now bound up with industrial life.

Health officers, medical legislators and social-minded physicians will find inspiration for greater efforts in a perusal of the brief. Fortunately, the two volumes are to be reprinted by the National Consumers' League and are thus to be purchasable at a very low cost, so that the splendid fund of information may be drawn upon freely by those interested in protecting the lives and limbs of the industrial population. The benefits of shorter hours will be manifest in the general welfare of society, the increase of leisure and recreation, an improved citizenship and a healthier community.—*American Medicine.*

OBLITERATIVE ARTERITIS AND LEAD POISONING

The etiology of obliterative arteritis is somewhat obscure. In the *Boston Medical and Surgical Journal* of April 13th Dr. W. Timme has reported a case the interest of which lies in the fact that lead poisoning appears to have been the cause. A painter, aged 36 years, was admitted into hospital on December 21st, 1915. During the last year he had a typical blue line on the gums, which responded to local treatment by a dentist. He had no palsies, but he complained of pain along the sciatic nerves and in some joints. In 1913 pain in the left leg began after walking and ceased on resting, to begin again on walking. This intermittent claudication

became gradually worse, so that only short distances could be walked without resting. In February, 1915, he could no longer walk. The left leg became heavy and helpless and cold and the seat of extreme pain and tenderness. The calf became smaller and flabby. He was treated with electricity and potassium iodide, but grew steadily worse. Hot packs, massage, rest, and exposure to the sun were then tried and he improved. A few ulcers developed on the outer side of the foot and spread rapidly. They were treated with the therapeutic lamp and they healed. In October the ulcers re-formed and necrotic areas developed at their site. Three weeks before admission to hospital the little toe was removed, but the sloughing continued. On examination the patient was found to be a frail, anemic, ill-nourished man. The tongue was coated and there was a suggestion of a blue line on the gums. The muscles of the left thigh and leg were markedly atrophied. No pulsation could be felt in the dorsalis pedis or any other artery of the left lower limb up to and including Poupart's ligament. The urine contained traces of lead. The fundi were normal. The Wassermann reaction was negative. Nothing is said about the treatment of the case, Dr. Timme remarking: "No adequate therapy has yet been devised." In this country Dr. F. Parkes Weber has pointed out the comparative frequency of arteritis obliterans among male Jews in the East End of London who are in the habit of smoking a large number of cigarettes. He suggests that unwholesome food and racial factors play a part in the etiology. Other causes suggested are syphilis and arterio-sclerosis. Kolisko has stated that he has seen obliterative arteritis frequently in chronic lead poisoning. This view is borne out by an American writer, Victor C. Vaughan, who, in an article on mineral poisons, declares that the changes in the vessels in lead intoxication are those of arteritis obliterans. Arterio-sclerosis, of course, is a well-recognized result of this poison.—*The Lancet.*

Dominion Medical Monthly

And Ontario Medical Journal

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Dermatology: George Elliott.
Physiologic Therapeutics: J. Harvey Todd.
Psychiatry: Ernest Jones, W. C. Herrman.
Ophthalmology: D. N. Maclennan, W H. Lowry.
Rhinology, Laryngology and Otology: Geoffrey Boyd, Gilbert Royce.
Gynecology: F. W. Marlow, W. B. Hendry.
Genito-Urinary Surgery: T. B. Richardson, W. Warner Jones.
Anesthetics: Samuel Johnston.

GEORGE ELLIOTT, MANAGING EDITOR.

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COMMENT FROM MONTH TO MONTH

The President's Address at the Ontario Medical Association meeting appealed to susceptive hearts; efficiency could be read between the lines. The Workmen's Compensation Act could be rendered more efficient if it were made fair to the medical profession and to the working man: medical education and medical practice could only stand upon efficiency; and the profession could only expect to promote efficiency by complete and thorough organization of itself.

There was an evident desire manifested throughout to uplift, and make better, human life. This, of course, can best be accomplished through the properly educated and trained practitioner directing those movements for the good of the people. Fads and illusory practices were well and roundly condemned.

Concerning those matters purely intrinsic in the medical profession, it was refreshing to see one occupying such a prominent position as the President of the provincial medical body stand out

in support of the governing body of the profession in this province. In the past there have been too many "knockers" of the Medical Council. That is the body which should receive the whole-hearted and undivided support of the profession at large. No doubt they may have made some mistakes—what governing body does not?—but, in the main, they have always worked for the good of the entire profession. The profession should take its stand in support of governing themselves; there should be no compromise; and universities and newspapers have little to do with the internal affairs of a profession which never hesitates when called upon to prove its patriotism, its honor, and its humanity.

The Annual Meeting of the Ontario Medical Association, 1916, it was conceded, was the best yet held. Indeed, in point of numbers, it was probably the largest medical meeting ever held in Canada, outside of the two meetings of the British Medical Association, held in 1897 and 1905, in Montreal and Toronto respectively. To begin with, the Programme Committee did its work exceedingly well; no better programme was ever submitted. The many excellent and illuminating papers from eminent men in the United States added greatly to those from Canadian sources. All were amply discussed.

The only "kick," if indeed it could be called a "kick," was the often-expressed regret upon the part of the outside men that they necessarily, owing to the division of the meeting into sections, missed several practical papers which would have been of value to them. For instance, whilst the medical section would be hearing some good paper, the surgical section would be considering some paper like fractures, which would have appealed equally to those from the country, for the time being attached to the medical section. Where papers appeal to the general practitioner, either on surgery, gynecology, or medicine, arrangements should be made for at least one general session, other than for the general addresses, to take up all such papers.

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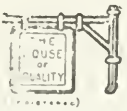
The Arrangement for the Exhibitors was, as near as possible, ideal. There were many of these, and they were welcome, but there should be many more. There are some firms living upon the medical profession who, neither by advertising nor exhibiting at the annual meetings of the medical men, care for nothing but themselves and the sale of their products. They apparently look to their rivals in business to support this end of the game, whilst they contribute all their aid to the medical profession through the medium of the post office and the doctors' waste paper baskets.

By association of idea this brings into view the detail man. The detail man is often a psychological study to the medical man, that is, if he does not put in an appearance when the doctor is busy. The less he contributes to the medical press in the way of advertising, and the more his conspicuity is evidenced by his absence from medical conventions, the more pronounced his glib self-assurance in pushing his wares and his sleek, smooth manner of advising the physician just how his product should be administered, but especially prescribed—and the doctor simply dotes on the "feller" who writes out a prescription for him with the "very finest."

It is a pleasure to meet and give audience to most of the detail men; and most medical men are approachable. A detail man, however, should sense the mood and surroundings of the surgery, or reception room. It, too, will be all the better for him and for his goods, if they be good goods, if he proves himself chary of administering too much advice to the simple-minded but receptive practitioner. "The worm will turn"—sometimes.

Industrial Health Hazards have been listed as follows: Dust, Dirt, Dampness, Darkness, Devitalized Air, Temperature, Fatigue, Inactivity, Infections, Poisons. This practically covers every community. But there can be added what has been recently denominated industrial "Stimulantism." This coined word—although the obsolete "stimulism" might have been revivified—suggests alcoholism, coffeeism, or drugism. Subjection to one or more of the above health-hazards promotes, especially in the absence of good drinking water, adiction to either.



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Here is a great field to be cultivated. Manifestly, in the inspection of a workplace, the first procedure is to ascertain the presence or absence of any health-hazards: next, the relationship of the worker himself to the work and disease: then, the question of the worker "getting used to" the various health-hazards.

As a provincial measure there should first be legislative authorization to make an investigation throughout any province of occupational diseases; and as a necessary sequel legislative enactment requiring the reporting of such diseases to the Provincial Board of Health by every physician in the province. In addition further legislation should be provided looking toward the prevention of such diseases, possibly particularizing certain manufactories or industries.

An ideal tabulation of occupational diseases first names the industries arranged alphabetically; then, the different trade processes of such industry from which disease or disability may arise; the specific poisons; the disease processes or affections.

Already in Ontario the province has been divided into health districts; other provinces could easily adopt similar legislation. A model law for morbidity reports would be essential to round up any scheme for the complete eradication of hazards to the good health of the working classes.

What is needed in this respect is: (1) Information, publicity, education; (2) correlation of industrial health-hazards and occupational diseases: (3) co-operative legislation.

Municipal control over health-hazards can best be promoted by co-operation with the various treating agencies—hospital and dispensary clinics—which, as a rule, have not in the past taken much cognizance of the particular employment, the "industry—department—employment" of the patient.

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Reviews

Mentally-Deficient Children. Their Treatment and Training. By G. E. Shuttleworth, B.A., M.D., and W. A. Potts, M.A., M.D. Fourth Edition. London: H. K. Lewis.

A considerable amount of attention has been given during the past few years to the mentally-defective class. As a consequence, it has been necessary, in order to bring and keep this book up-to-date, to revise and add thereto. "The Mental Troubles of Youth" is the title of a new chapter which has been added. The manual will be of great interest to those who make a study of the problems concerning mentally-deficient children.

Localization by X-Rays and Stereoscopy. By Sir J. Mackenzie Davidson. London: H. K. Lewis.

The theme of this volume is the system of exact localization by X-rays. War work has enabled the writer to collate valuable points from his own personal experience and observation. The system advocated has stood the test of time; and the book may well be looked upon as one of great merit and valuable practical import.

The Art of Anesthesia. By Paluel J. Flagg, M.D., Lecturer in Anesthesia, Fordham University Medical College, etc., etc. 136 illustrations. Price $1.75. Philadelphia, London and Montreal: J. B. Lippincott Company.

This is a well-gotten-up and excellently illustrated book. It embraces a subject of the keenest interest to most practitioners who are often called upon to help out a brother physician. Whoever, therefore, is called upon to administer anesthetics from time to time can fortify himself amply in the knowledge of this art. The knowledge herein presented has been drawn from an unlimited experience and careful observation; also from world-renowned medical centres, such as those of Crile, Murphy, and the Mayos. Whilst specialism in anesthetics is not extensive in Canada, our limited number of specialists will find this work a valuable addition to their library.

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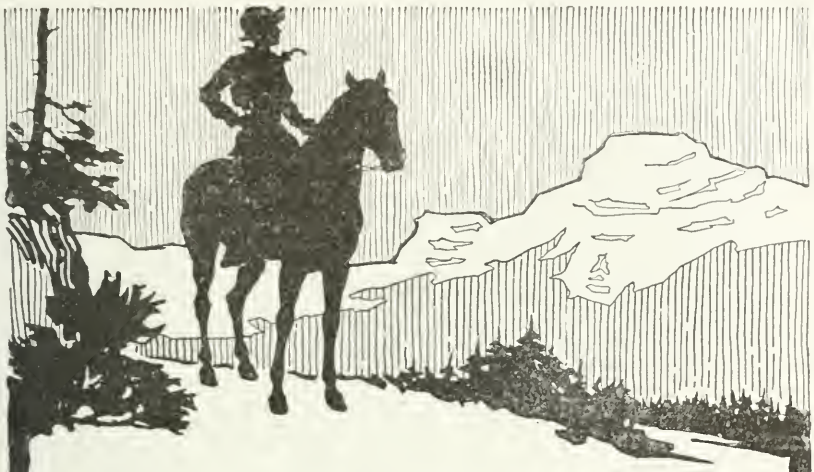
Publisher's Department

A most important point which many professional men fail to give proper attention to is the safe investment of their surplus funds. There is nothing that detracts more from the efficiency of a professional man who requires to give concentration to particular objects than to have his funds invested where it causes him worry. Every one desires to become independent so that failure of health or accident will not leave him without provision. It is said that as a class professional men are very poor investors. It is not to be wondered at. It takes a good deal of study to understand investments the same as it does to understand medicine. Anyone can put his money in the bank and draw 3 per cent. That is not good investing. Good investing requires a large interest return, say from 5½ per cent. to 7½ per cent., and at the same time have your principal absolutely secure. Messrs. C. H. Burgess & Company, dealers in Municipal Debentures, Traders Bank Building, Toronto, have recently been sending us very interesting information on this point.

The attention of our readers is called to the re-appearance in this issue of the announcement of *Pepto-Mangan* (*"Gude"*) by the M. J. Breitenbach Company, 53 Warren Street, New York. This well-known and excellent product is now owned, controlled and manufactured exclusively in the United States, and the Breitenbach Company have gone to a great expense in erecting a new plant to make this possible. It is supplied in eleven-ounce bottles, and never sold in bulk. Canadian physicians can secure their supplies through their Canadian agents, Leeming-Miles Company, Montreal.

The Prophylactic Treatment of Hay Fever.—The best way to treat disease is to prevent it. This is not a new thought. The expressive (if possibly inelegant) "prevention is better than cure" is as old as medicine. Unfortunately, prophylactic therapeutics has its limitations, and, while the science of preventive medicine is undoubtedly expanding, these limitations are still rather sharply defined.



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So far as the preventive treatment of hay fever is concerned, there is reason to believe that some real progress may now be recorded—an agreeable augury when one reflects upon the long and profitless search for a curative agent worthy to be called a specific.

Ragweed pollen extract, for example, gives promise of being an efficient immunizing agent in the autumnal type of hay fever. Its use is based upon the generally accepted theory that the ordinary hay fever of late summer and early fall, with occasional exceptions, is due to the pollen of ragweed, or to the toxic effects of other pollens closely analogous to ragweed in their protein content.

A reliable, accurately standardized ragweed pollen extract is supplied by Parke, Davis & Co. Each package contains three 5-mil. (5-cc.) vials, of 10 units, 100 unts and 1,000 units per mil. (cc.) respectively; one vial of physiologic salt solution for use as a diluent, and one scarifier. The extract is administered hypodermatically. Injections may be made with any small hypodermatic syringe, the so-called tuberculin syringe being well adapted to the purpose. Literature giving all necessary information as to application and dosage accompanies each package. The extract may be procured through any retail pharmacist.

While good results have attended the use of ragweed pollen extract after the disease has become established, the best effects are said to be obtained by early immunization. This prophylactic treatment should begin a month or six weeks before the expected manifestation of symptoms.

Practical Cystoscopy and the Diagnosis of the Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital, etc., etc. Second Edition, thoroughly revised, with 299 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Co. Canadian Agents: J. F. Hartz Company, Toronto.

A number of chapters of this excellent book, for the genito-urinary surgeon, have been entirely re-written, and some new sections added, particularly the one on pyelography. The profusely illustrated pages add much to its value. Altogether one feels quite safe in recommending a volume of such undoubted worth.

Dominion Medical Monthly
And Ontario Medical Journal
Vol. XLVII. TORONTO, AUGUST, 1916 No. 2

Original Articles

DRUGS AND MEDICAL AGENTS CONSIDERED FROM THE PROFESSIONAL, ECONOMIC AND NATIONAL STANDPOINTS*

By A. D. Blackader, B.A., M.D.
Professor of Pharmacology and Therapeutics, McGill University, Montreal.

To talk on drugs and remedial agents is an old theme carrying us back in the vistas of our imagination to the days of Dioscorides and Galen, and very justly awakening the query, what are the special conditions in the practice of our profession to-day which have induced your esteemed President to consider a paper with the title which has just been announced as opportune, and perhaps interesting, at the present moment?

After some consideration I have deemed that the first and perhaps most outstanding fact in regard to drugs as a whole is the position which they at present hold in modern therapeutics. Years ago they were deemed to be of the first importance; without them there was no therapy. To-day, with the exception of the few which have a definite specific action on some of the discovered causes of disease, drugs in general have been relegated to a distinctly secondary place. For the cure of disease the physician to-day places more confidence in fresh air; on rest, either systemic or local; on a carefully arranged dietary which will afford a sufficient number of calories with the proper proportion of proteids, carbohydrates and fats to supply most perfectly the wants of the organism without unduly taxing any weakened or suffering organ, and on a rational application of the principles of hydrotherapy.

Certainly with the exception of the few diseases for which we have specific treatment, I know of none in which, if I had to make a choice between the use of these remedial measures and the use of drugs, I would not invariably choose the use of the former.

This pre-eminence of these remedial agents in our modern ideas of therapy, the profession owes in great measure to the almost

*Address delivered before the Ontario Medical Association.

world-wide study of the conditions which influence the course of an infection by the tubercle bacilli in man and animals. No one advance in modern therapy has conferred so much benefit upon the sick and ailing as the recognition by the profession of the health-restoring properties of free, fresh, flowing air. I was much interested the other day when listening to an address by Dr. Frank Billings, of Chicago, on vaccine therapy, to hear him state that comparing the records of many hundreds of patients treated by the most carefully prepared autogenous vaccines, with the records of patients who received no vaccines but were placed under the most favorable hygienic conditions, with rest, abundance of fresh air and a carefully regulated dietary, he found that these latter with no specific vaccines had their defences aroused quite as quickly and as fully as those who received vaccines. On the other hand, in a few who received the vaccine treatment, but in whom no attention was paid to conditions of general hygiene and careful upbuilding of the strength, it was noted that the vaccines of themselves did not bring forth much of a response.

The importance of a dietary arranged to suit the digestive capabilities of the sick was recognized by Hippocrates, but it is only in recent years that physicians have appreciated the value of an estimation of the actual number of calories daily consumed by the patient in his food as compared with his actual requirements, and have recognized the benefits to be derived from such a modification of the amount of proteid, carbohydrate and fat as to supply efficiently these requirements without overtaxing any damaged or unduly fatigued organ. Still more recently they have been shown how much can be effected by a high caloric feeding on the one hand and by a brief starvation period on the other. Unquestionably this triad of fresh air, rest, and careful dietary should occupy the first place in our system of therapeutics at the present.

In the limited time at my disposal it is impossible to make more than a brief reference to vaccine and serum therapy, which now threatens to lessen yet further the need for drugs and thus to relegate them to a position of still minor importance in therapeutics. Two decades ago the profession hailed the introduction of this new method of treatment with the greatest optimism. It was hoped that by its means we should be able so to strengthen and hasten the development of the body's natural defences that we could promptly antagonize the causes of disease and combat infection with its own weapons. These natural defences, however, have proved much more complex and multiple than at first even the scientists reckoned upon, and progress has been difficult and slow. Unfortunately

while scientific medicine has been earnestly and perseveringly working at these most intricate problems, many commercial houses by the introduction of practices not in harmony either with the conditions demanded by the primary hypotheses or with the teachings of bacteriology, and also by the publication of extravagant statements founded on no scientific evidence, have misled many in the profession into the use of mixed vaccines and semi-secret unstandardizable mixtures of bacterial products.

While it may perhaps be said that clinical investigation indicates that some temporary benefit may follow the injection of many protein substances in chronic infections, the general results obtained under observation have been most unsatisfactory. "Fundamental principles demand that therapeutic vaccines be composed of bacteria as little different and as little removed as possible from the special strains of bacteria causing the infection against which the vaccine is to be used." (Hektoen.) Therefore autogenous vaccines alone are to be relied upon, and it would appear a simple matter in almost every case for such to be prepared at the same time that the bacteriological diagnosis is made. We may add that the physician who accepts the mixed vaccines of commerce without knowing the exact etiological factor of the infection treated, certainly abandons rational medicine and gropes in the dark.

Concerning the use of drugs in our therapy a second statement that can be made, and which appears to me of great importance, is that the profession as a whole, while using drugs freely, often too freely, gives too little study to our gradually increasing knowledge of the exact physiological action of drugs and too little study to the dosage in which they should be employed. Drugs are to-day often prescribed with an erroneous idea of their power to influence special conditions or symptoms, and are often used in unsuitable doses. As simple illustrations the following may be cited: It is now generally agreed that a digitalis action when demanded by the heart's condition is best obtained by the use of the drug in full doses till its effects become manifest. In many prescriptions that I have seen the amount given is too small to secure the greatest benefit. To obtain results from the use of strychnine as a respiratory stimulant larger doses than the 1-50th or 1-60th grain in which it is often prescribed, are necessary. The strength of tincture of nux vomica in the last edition of the *Pharmacopœia* was reduced 50 per cent. to make it correspond with the strength of this tincture in other countries. I have asked several druggists whether physicians had made any difference in the amount of this tincture ordered in their

prescriptions before and after the change went into effect and have been told that very few had done so. Physicians cannot expect that ten minims of the new tincture will have the same result as ten minims of the old. On the other hand the preparations of iron are generally prescribed in unnecessarily large doses and purgatives are ordered with a too lavish hand. As a consequence of this indifference, or ignorance, the physician fails to get results, and his confidence in the official drugs, and perhaps his confidence in himself as a prescriber, is impaired.

Associated with this imperfect knowledge of the exact action of drugs, and the indifference to the proper or necessary dosage in which they should be prescribed, an increasing tendency has been evinced by teachers in hospitals, by writers in many text-books, and often by consultants, to undervalue the use of our official drugs in the treatment and relief of symptoms. Very properly etiology, diagnosis and prognosis in disease are all important, but ailing patients demand some mitigation of their troubles and by means of our official drugs, properly employed in proper doses, we are able to give all possible relief. Psycho-therapy, the influence of one mind on another, moreover, is a welcome addition, and may undoubtedly be of much service; perhaps be all that is required, but its use demands tact and judgment.

Another fact which for many years has appeared to me as unfortunate, is that the list of drugs in our *Pharmacopœia* is such a long one. Even the last edition contains for each of us a large number which long ago we consigned to the dust-heap; such as most of our antispasmodics and of our astringents, many of our drastic purgatives, many of the so-called bitter tonics and stomachics; also the phosphates and hypophosphites so often vaunted to the general public as nerve food, and many other drugs of a problematical value which have been allowed to slide through our brain cells into the region of forgetfulness; and very properly so.

Shortly after I received the appointment of professor of therapeutics in McGill University, Sir William Osler—then to us simply "Osler"—on a visit to Montreal, came and congratulated me on my appointment. "Don't teach the students many drugs, eight or ten are all that is necessary, but teach them these thoroughly," he said. I did not agree with his limited number then, but year by year I am becoming more and more of his opinion. My list of valuable drugs lessens, and although I am not yet limited to ten, I yearly decrease the number of those taught to my students, and emphasize to them the greater importance of knowing

a few drugs thoroughly, rather than of knowing many drugs imperfectly.

Partly as a result of this relegation of drugs to a secondary place in the treatment of disease; partly as the result of a lessened confidence in the beneficial action to be obtained from the employment of our old official drugs; and partly also from a desire to exploit new drugs and new preparations, the physician to-day, I fear, is gradually using the drugs and preparations of the *Pharmacopœia* less and less, and in their place is prescribing the ready-to-hand formulæ of the manufacturing chemists, and not infrequently their proprietary preparations under patented names.

Large manufacturing houses of limited liability and immense capital, employing a skilled and highly educated staff, have been certainly in many ways of much service to our profession. Their triturate tablets, hypodermic tablets, and compressed tablets; their sugar-coated and chocolate-coated pills; their delicately-flavored and brightly-colored elixirs, and their sterile ampoules, have been of great assistance in our prescribing, and will be so long as the manufacturers are obliged to maintain a high standard of strength and purity. This, however, will require government supervision. Undoubtedly such preparations as I have mentioned tend to favor economy for the patient, and add greatly to the convenience of such physicians as are obliged to dispense their own prescriptions. Much caution, however, must be exercised, and an absolute veto be placed on the use of proprietary combinations with patented names, or on any preparations of which the formula is hidden or obscure.

The profession should speak on this matter in no uncertain tone, for to-day many of these manufacturing houses and many brazen-faced pharmacists have gone much further than to offer us our official drugs put up in form convenient for administration, or blended in special formulæ of their own devising, stated to be suitable for all constitutions and conditions. Many of them now attempt to give advice to physicians as to the latest treatment of disease and foist prescriptions upon us containing some so-called new chemical agent—otherwise a well-known drug under a new proprietary name. Still worse, in our own medical journals, which we are supposed to control, proprietary nostrums are ethically (!) so they state, offered only to the profession with highly exaggerated and totally unproven statements, claiming for their special combination all kinds of miraculous powers. Their agents, fresh from schools of plausible advertising, flood our shelves with their free samples and our desks with their blotters emblazoned with the

suggestive names of their special nostrums. Their literature arrives with every mail and is full of unwarranted statements loudly vaunting the virtues of their specifics; on every page flaunting ready-made prescriptions for the physician to copy, in which a valuable official drug is shown in combination with their wonderful elixir vitæ, thus salving the conscience of the physician, while the nostrum manufacturer exacts his heavy toll in the price paid.

May I ask this gathering whether they think a physician treats honestly a patient who consults him, when he prescribes a bottle of So-and-So's Compound Terpin Cough Mixture, or another So-and-So's Digestive Elixir, or a third quack's Wonderful Life Restoring Iron Tonic, when he knows little of what drugs are contained in them and nothing of the amount of the often powerful drugs he is actually giving when he prescribes such nostrums, and trusts implicitly in the statements of "Truthful James," the nostrum dealer? Can you afford me a better illustration of the blind physician leading the blind patient? You know the result.

All this nostrum and proprietary business depends upon secrecy, upon the zeal and assurance of the advertising proprietors, and upon the gullibility of the purchaser. Patent medicines, unless they contain some dope, are short-lived.

A very instructive story is that of Dr. Warburg, of Vienna. About the middle of last century Warburg's solution of quinine was very highly esteemed in many countries. The Austrian Imperial Health Board ordered it to be kept in all the pharmacies of the empire; English physicians in India averred that by it they effected cures they were unable to effect by the simple drug. But unfortunately for him sufficient pressure was brought to bear to induce him to divulge his recipe, and at once its sale fell off and shortly almost altogether ceased. Everybody said: "Oh, is that all —quinine with a little aloes and aromatics!" He died a comparatively poor man, and yet his combination had perhaps a certain amount of value. Compare him with Mr. Eno, of Eno's Fruit Salts, who died worth six million of dollars, or the self-dubbed Professor Holloway, vaunting the efficacy of his pills, and his ointment of turpentine and beeswax. He left money sufficient to found colleges for women and asylums for lunatics. Remember also Dr. Morrison and his pills of gamboge, colocynth, squills, cream of tartar and ginger—a pill such as my conscience and my knowledge of the action of drugs never would allow me to prescribe—and yet physicians, we are told, ordered them surreptitiously, and the English public swallowed them freely, believing his wild statement, "that all diseases arise from one cause

and therefore require but one medicine; it follows that if Morrison's pills do not cure no other medicine on earth will, and infallibility belongs to God." In his days pills and statements were not sugar-coated but were made strong. Our modern proprietary humbugs cover their chaff with a little wheat and take care that their nostrums please the eye, tickle the palate, and gently stimulate the imagination by some suggestive name or statement.

It is also in my opinion reprehensible, and I do not think this is too strong a word to use, for the physician to countenance proprietary preparations of even official drugs. For the pharmacist the fact that he is obliged to keep such an innumerable array of proprietary preparations on his shelves, together with the special tablets and pills of not one but many large manufacturing houses, must demand a large cash outlay; an outlay for which the pharmacist must recoup himself out of the pockets of our patients. Such recouping eventually reacts against the profession.

Personally I do not think it makes any difference to my patients whether the tablets I order be made by Messrs. Brown or Messrs. Smith, provided that both manufacturers are careful and honorable, and supply pure drugs. The pharmacist should be held responsible for the large houses whose goods he dispenses. Very seldom indeed should the physician append the name of any manufacturing house to his prescriptions.

Another important fact which has to be recognized to-day is the number of new synthetic drugs which have been introduced to the profession by German manufacturing houses. A few of these have proved of very definite value, replacing many of our older drugs; the great majority of them, however, have proved failures. For the most part they are the by-products in the manufacture of other chemicals, especially of the aniline dye industry, and their introduction to their profession has been due to the very energetic business methods of our German *friends!* A few, especially the earlier ones, have come to us with their value attested by really careful research work in the experimental laboratory and by the observations of careful clinicians in the large German hospitals. Of late years, however, much of this work has evidently been of the most superficial character and the numerous large chemical industries of Germany have competed with one another for priority rights in flooding the markets of the world with new drugs of almost no value. All of these have had some sounding proprietary name indicative of their supposed action, to which was attached a scientific name to indicate profound chemical research.

A few of these new drugs were definitely appropriated from the laboratories of both French and English chemists, the name given by the discoverer was changed and a newly coined one was patented and the medical profession paid the piper. You will remember that in 1894 hexamethylene-tetramine was synthetically made and its therapeutic value as an antiseptic announced by M. Albert Robin at the Academy of Medicine in Paris, under the name of formine. About ten years later, under the German name of urotropine, with German patents, the same drug was introduced to the profession and was received without questioning by English, French, and American physicians, and the price demanded was paid; five times the price for which it could be made in an ordinary chemical laboratory.

This is but one example out of many. How was it accomplished? The German houses bought up, or ruined by underselling, all the chemical industries in France and Great Britain that either opposed them or stood in the way of their schemes. For the few years immediately preceding the war this synthetic drug business represented in Germany a modern trust in its most vicious manifestations. There were large chemical factories thriving on the past bounties given by a fostering government, large hospitals in which so-called clinical experiments could be made, high professors with sounding titles who did not hesitate to stoop to give certificates, and well-paid medical journals which willingly published reports, long and many, calling attention to every new product.

The whole world still honors the perseverance and careful laboratory methods of Ehrlich in his research for a *therapia magna sterilisans* for syphilis. His 606 accomplished almost all, but yet not all that he claimed for it. It is far otherwise with many of the recent synthetic products which until the outbreak of the war were so sedulously brought to the notice of our profession in Canada and elsewhere. A short trial has shown that most of them are of little value and their introduction can only be regarded as a prostitution of laboratories, hospitals, and professors to commercial ends. Everywhere when science ceases to pursue truth for its own sake and becomes the poorly paid slave of commerce deterioration is, I fear, inevitable.

As I have mentioned, a number of these new synthetic drugs proved themselves of very definite value and replaced almost entirely many of our older drugs and their galenical preparations. Now, when our supply is cut short, we find ourselves in difficulty and appreciate how completely Germany in the chemical trade had

made herself master of the situation. At present it is against the law to order or make use of any German wares, and under this law falls the use of German-made drugs and German patent names. On the other hand it has been questioned whether a pharmacist is at liberty to replace a substance ordered under its fancy German name by the same substance sold under its true scientific name. It is perhaps debatable, but the remedy is in our own hands. To-day quite a number of these really useful synthetic drugs are manufactured in England, France and Switzerland, and a few in Canada and the States, and have been placed on the market under their chemical names. It behooves us in writing our prescriptions to avoid the use of all patented names and to use only the name given in the *British Pharmacopœia,* or the chemical name. For this reason in prescribing we should write,

Acetanilid, not antifebrin;
Phenazone, not antipyrin;
Acetyl-salicylic acid, not aspirin;
Theobromine sodio-salicylate, not diuretin;
Methyl sulphonal, not trional;
Diacetyl-morphine, not heroin;
Barbitonum, not veronal;—and so forth.

The list is a long one.

Much more objectionable even than the patented names of new synthetic drugs are the proprietary names representing the semi-secret and patented preparations of many large manufacturing drug houses, American, Canadian, and English. To these I have already referred, but desire to make one more protest against the prescribing of such nostrums by any well-educated and right-thinking physician. All use of such prescriptions I regard as unethical, tending not to the honor but to the dishonor of our profession, and not to the advancement of true knowledge, but to the benumbing of research and as a retrogression towards the therapeutics of the dark ages.

When the war is over there is little doubt but that Germany will again make the attempt to dump large quantities of these drugs and chemicals in every civilized country with the hope of again ruining the chemical laboratories which to-day are trying to supply us with the synthetic drugs of which we stand in need. I must appeal to the patriotism of every physician to favor either the home-made or the British-made product. And to our government we would say that no industry is more important for our

country than the development in all directions of its great resources by chemical research and no manufacturing houses are in greater need at the present of governmental protection than those which attempt to do for the development of Canada what large chemical laboratories and factories have done for the advancement and development of Germany.

CHARLIE ROBERTS' CONSERVATION

By A. C. E.

In a way, it was a momentous day to William Roberts and his eldest boy, Charlie, as they stepped out of their cottage home. Charlie was buoyant, happy, expectant as though going to enjoy a match between the leaders of the two great Leagues. Where is the boy who would not be so, with a holiday before him and the knowledge he was to be told that day how he was to become a man? It was his twelfth birthday—and why should not every boy have a holiday on his twelfth birthday, especially when the occasion is so important?

"I'm taking you to the hospital doctor, Charlie, because the card I got from the State Board of Health says if the father, mother, or guardian cannot afford to pay a fee to a qualified physician, the child may be taken for examination and instruction to a hospital physician. It is the law of the State that every boy, on coming to the age of twelve years, must be examined and instructed on those matters concerning men and women which relate to the begetting of children. A doctor of medicine must make the examination and instruct you accordingly. Every girl must be examined and instructed by a trained nurse or woman physician. Your mother will have to take Maggie in a couple of years. As the object is mainly to prevent vicious habits and prevent disease, it has been decided the examination and instruction can be best done and given by physicians and trained nurses to boys and girls respectively."

"I don't know exactly what you mean, daddy, but why can't we go to Dr. Browne who attended Maggie with the scarlet fever—and all of us when we are sick?" and the blue-eyed, curly-haired, manly little fellow sought his father's sober-looking face as though sensing some deception.

"You being the eldest, Charlie, you are the first I have had to take to the doctor in this way. It is because of the hard times

and not having much carpentering to do this year, that I am taking you to the hospital doctor this year. I do not have to pay there—many hospital patients are kept and treated for nothing. I need the little money I have to buy food and clothing, and pay the rent—and there are seven of us altogether."

"But am I to be made into a man all at once to-day, daddy, by the doctor?" questioned Charlie, now quite resigned to the strange hospital physician.

"Oh no, indeed not," laughed the father. "He just measures and weighs you, I am told, examines your heart and lungs—has you take off your clothes, and sees you are all right. Then he will tell you how to take care of yourself, teach you how it is best always to keep clean, and instruct you how you will grow day by day and year by year into a man. But here is the hospital! We shall soon see and hear what he does and says. Don't be one bit afraid, for he will not hurt you in any way," and taking his boy by the hand he led him into the waiting room of the out-door department of the hospital.

Telling Charlie to seat himself in this vestibule where he was to await the opening of the door leading to the new life, William Roberts crossed to the admitting clerk. An honest man, plain, straight as his carpenter's rule, square in his dealings with his fellow man, William Roberts believed in doing what was right in complying explicitly with the requirements of the law. Whilst he was arranging the preliminaries for his son's examination, Charlie sat down quietly enough, but soon became a little uneasy concerning the outcome of his examination. Boylike, however, his eyes roamed about the room. He saw other boys there of his own age, and other ages, but, of course, did not know whether they were there in health or sickness. Quite a number of patients were waiting, and every once in a while a door, of which there were several in different directions, opened, and some one would come out and pass through the waiting-room to the street door. By-and-by he noticed each door bore a sign on it—Medicine, Surgery, Eye, Ear, Nose, Boys, Girls, etc. He was gazing at "Boys" when his father returned, remarking they would have to wait perhaps a half-hour.

It was a little longer when the door for "boys" opened, and the admitting clerk signed to William Roberts he was next. At this door they were met by an attendant who informed the father he could go in with his son or return to wait in the outer room. William Roberts chose the former alternative. They were then

conducted to one of several doors upon which was affixed the name of Dr. Macdonald.

The hospital doctor was seated at a small desk, writing. He immediately arose and came towards his visitors with a freedom of manner and a welcoming smile which brought assurance to Charlie Roberts. Without any preliminary questioning—for all parties understood what the boy was there for—the doctor asked him to remove his garments. Nothing loth, Charlie complied. Weight, height, chest, and abdominal measurements were taken, each being inscribed upon a white card. Then the external organs were inspected, palpated, and their condition written down. This concluded the physical examination. When he had resumed his clothing, Charlie thought this was not so bad after all.

The doctor had given a book to William Roberts to read while he examined the son, thus serving the double purpose of enlightening the father as to the education of his son, and relieving the son of any embarrassment he might experience in disrobing and being examined by a stranger. Upon the fly-leaf the father read:

> *Issued by and under the sole authority of the State Board of Health, as a concise and uniform exposition of the phenomenon of sex, and containing the necessary information all boys should know of the function and uses of their generative organs, as well as the care of the same during the whole period of their lives.*

Having read the book, he laid it on the table. He had ascertained it had been prepared by the State Board of Health, and had been sanctioned with the approval of the State Medical Society. He was thus assured the best medical thought, observation, and experience of practical and scientific men in every department of medicine had been brought to bear upon the proper care, training, and education of the adolescent boy between the ages of twelve and sixteen years. He now fully believed the doctor was the right person to take his boy and conduct him into and through the new life, upon the threshold of which he loitered. Scarcely had he laid the book down when the doctor, having finished the physical examination, returned to his desk, motioning the boy to a seat by its side.

"I'm going to read this little book to you now, my boy, and explain it to you, but before doing so I want you to promise me you will not read anything else upon the subject that you might see in newspaper and magazine advertisements, or which might be given or sent you by any other person—will you promise?"

The doctor seemed so earnest and kindly in his manner that Charlie readily responded and gave his promise.

Then for ten minutes the doctor read and explained the uses and functions of the male generative organs, and he had an attentive listener.

"Promise me now," as he concluded and replaced the book upon the table, "if you want to know anything about what I have been reading, you will ask your father about it?"

"I promise."

"And if a boy younger than yourself or of your own age asks you what you know about these matters, you will tell him the truth, so far as you know it?"

"I promise."

Then turning to William Roberts the hospital doctor thus addressed him:

"The law of the State enjoins you to take your boy to a doctor again at thirteen, then at fourteen, and again at fifteen. It is with this as with registering a birth, or issuing a death certificate—the same as reporting a case of diphtheria, scarlet fever, etc. It is compulsory. If during the year the boy asks you a simple question of a sexual nature, answer it in a straightforward way. Never lose an opportunity of preaching this gospel to your intimate friends. See that he participates in outdoor sports and exercises, and teach him temperance in all things. Remember that a clean mind in a clean body points to health. Let the teachers and the preachers inculcate morals and religion; but do you take the doctor's advice and guard your boy's health in all ways. That is all."

"May I ask what you do with that card?" queried William Roberts.

"Yes. I forward it to the State Board of Health at the Capital, where it is filed with his birth registration card. Next year, I, or some other doctor, will enlighten him and you further."

. . . . . .

The first year has passed away and William Roberts, deeply interested in his boy's life, finds himself in somewhat better circumstances. He decides this year he can afford to take him to Dr. Browne, his regular family physician. Not once during the year had Charlie broached the subject of sex and reproduction to him; and he had never considered it advisable to question the boy as to any knowledge of the subject he had retained from his initial instruction. The doctor's book had warned against talks

upon the subject. The sexual appetite had to be governed like the primitive appetites of thirst and hunger. Whether Charlie had received any further information from older boys, or had imbibed other ideas from clandestine reading, he knew not. He had carried out his part of the contract by periodic talks upon cleanliness in both body and mind, temperance in eating and drinking, as well as in play and in sports. He had, in a way of his own, run the gamut of didactic morals from his thumb to his little finger: 1, Tell no lies; 2, say no bad words; 3, do no bad things; 4, do as you're told; 5, always be good. He believed the mother, the teacher, the minister were doing their part in the training of the embryo man.

Dr. Browne went through a similar procedure to the hospital physician, recording age, height, weight, etc., upon another card. He took up the book of instructions and also requested the father to read it carefully whilst he conducted the physical examination. Then the catechism began. William Roberts was delighted that Charlie was able to answer most of the simple questions intelligently. Those he could not answer were still further explained to him. At the end of a half-hour the boy was dismissed and returned home alone, the father following in a short time.

"How is it that you didn't come to me the first examination, Roberts?" interrogated Dr. Browne, who had been the family physician for a number of years.

"It was this way," returned the father. "Business was bad last year—no work at my trade to be got. I simply couldn't spare the fee. Now I believe it is well worth the money, and more, not only to me but to the boy particularly."

"But you need not have bothered about the fee. We're not much of a profession if we are to have a fee for all the good work we do for the community. We don't get, nor expect, nor yet want, a fee for registering a birth, writing a death certificate, or reporting a case of communicable disease. Of course, this takes time and a little different from those, but yet, when a man tells us honestly he can't pay, we do not mind so much. If he can pay, however, it's different."

"I don't mind the fee now a bit—it's money well spent."

"Yes, I think it is myself," replied Dr. Browne. I believe this is one of the greatest measures for the good of humankind that has come amongst us for a century. It is working smoothly, and next year when you bring Charlie again you will appreciate additional evidence of its value. I send this card to the State Board of Health, where it is filed along with his birth registra-

tion and first examination card. We'll have specialists in this line of work soon, and the people, now beginning to appreciate its possibilities for good, will readily pay an even higher fee. After all it is not much for your boy's welfare in life. It's the best value to be had for the money anyway. No man should begrudge it for his child—and it is even better as it goes along. Many a man will fritter away anywhere from fifteen to fifty dollars a year in tobacco. Why cavil at improving the race?"

. . . . . .

Misfortune, in the image of tuberculosis, stalked into the home of William Roberts ere another year had closed on the boyhood life of his son, Charlie. Maggie, the pretty and only daughter, fell into the clutches of that dreaded disease, although, thanks to the skill of Dr. Browne, it had early been detected. William Roberts decided to take his doctor's advice and move to the country to secure for Maggie fresh eggs, milk and meat, as well as good, pure, country air. The question of work, however, for himself, had to be considered. Dr. Browne had a brother, a builder, owning a sash and door factory, in a small town up-State, and with this man steady employment was secured.

When Charlie's fourteenth birthday arrived, William Roberts took his son to a crusty, old, rough-and-ready, tear-off-the-bandage-in-a-hurry physician of the town. He snorted contemptuously when the father stated his mission—pooh-poohed—called the whole proceeding a woman's fad—a pitiful rigmarole—hadn't time to bother with such nonsense—the fee was not large enough for the time spent—life insurance examinations paid much better. When, however, William Roberts quietly replied he had the money with him to pay the fee, Dr. Crabbe got out a white card from his desk, a tape measure, and proceeded in the usual examination.

"Your instructions this time will be different and more to the point—really worth while," he blurted out. "I have here a book prepared by the State Board of Health, and I shall read and explain to both of you the diseases a man is liable to contract like unto the other diseases, infectious and contagious, you now know some little about—smallpox, diphtheria, typhoid, etc. These are the private or social diseases as they are now called; and if either of you ever contract one of these diseases, the doctor who attends you, or the druggist if you are foolish enough to go to one, must report your case to the medical officer of health of your district or community. That official in turn reports to

the State Board of Health at the Capital, so you see, your life history, in fact, the life history of every boy, girl, man, or woman, is kept on file in the State Department of Health. Now you see the dangers you run if you step from the path of sexual rectitude. These are real dangers to yourselves, your children, your families, and sometimes to your associates and friends, yes, even sometimes to utter strangers. Come back in a year for your final examination and instruction."

. . . . . .

But William Roberts and Charlie did not go back in a year. Instead, the urgency of Maggie's state of health demanded complete outdoor, country life. A small market garden was rented some ten miles from a large city, and thither William Roberts removed his family. By this change all the members of the family benefited. Charlie, the mother, and the second boy, now going on twelve, helped in the garden, while Maggie roamed about the place or rested at will.

On his fifteenth birthday, Charlie went himself, on his father's advice, to a young doctor in the neighboring village, two miles distant from their home. Here, although the physician did not have many patients to treat with social diseases, he was again examined and grounded in the dangers of promiscuous cohabitation. His fourth card was made out and despatched to lie in company with the previous three, and his birth registration. Charlie was now a strong, lusty lad; and, looking around for a vocation for his son in life, William Roberts decided upon telegraphy, which the boy could learn at the wayside station near his home. From this, after two years, he was appointed to a clerkship in the office of the district passenger agent in the near-by city. Promotion succeeded promotion until Charlie became assistant to the district agent. From that position he was advanced, by the time he had reached twenty-four years of age, to the position of assistant general passenger agent of the great railway system, at a salary of $5,000 per annum. Then he fell in love.

. . . . . .

William Roberts still cultivated, but now owned, the respectable market garden which had by this time grown to such substantial proportions that it was the finest market garden in that section of the State. Maggie had completely recovered from her incipient attack of tuberculosis, and was happily married to the young doctor in the village. One day a letter came from Charlie

stationed in the big railway centre, in a neighboring State, announcing his engagement to a very beautiful and charming girl. Of course, it gave many particulars as to her age, address, name, name and business of her father, as well as the usual fulsome praise of her many virtues. This was followed soon after by another letter which showed the father his son was in the depths of despair. The father of Charlie's affianced wife now refused sanction to their engagement on the ground that, through the medium of the State Board of Health of his native State, it had been ascertained Charlie's sister had been a consumptive. What was to be done? There was no denying the fact Maggie had had tuberculosis, but as she was now cured of the disease and was, indeed, married to a physician, surely no man would let that interfere in the happiness of his daughter. William Roberts wrote Charlie that, as his prospective father-in-law had invoked the records in his daughter's behalf, he should do likewise. For what had he paid for Charlie's upbringing!

Obsessed with the fear that he might find out something he should not like to know, Charlie cogitated as he read his father's letter. Love was strong within him, but it was repugnant to him to take this seemingly unfair and altogether unnecessary step. He would rather persuade her father from his tuberculosis doubts. Still, one thought would not be dissipated from his mind: "The records are there for you as for her." Finally, he resolved to go in person to read for himself his betrothed's life history. He was horrified to discover recorded against her, some three years before, one of the dangerous diseases of which he had been warned.

Of course, he could not tell her. It was all over. Would it have made any difference had he known she had innocently contracted the dread disease through a brother's kiss?

News Items

Dr. Dakin has returned from active service and has resumed his duties as medical superintendent of the Regina General Hospital.

Dr. C. C. Fissette, Brantford, Ontario, has received an appointment in the Royal Army Medical Corps and has left for England.

Lieutenant-Colonel Alexander Primrose has returned to Toronto from Saloniki, where he was with the University Base Hospital as chief surgeon.

Major R. K. Kilborn, Kingston, Ontario, has resigned as medical officer of the Royal Military College, after occupying the post for sixteen years.

Dr. G. S. Graham, formerly pathologist and bacteriologist to the City Hospital, Boston, Mass., has been appointed chief of the laboratories at the Vancouver General Hospital, British Columbia.

Dr. G. T. Wilson has been appointed medical officer of health at New Westminster, B.C., in succession to Dr. A. L. McQuarrie, who has gone overseas. Dr. R. Eden Walker has been appointed coroner.

Congratulations are in order to Dr. Frederick Montizambert, Director-General Public Health, Ottawa, and Past-President of the Canadian Medical Association, on the distinction C.M.G. bestowed by His Majesty.

The Hon. Dr. Young, formerly Minister of Education and Provincial Secretary in British Columbia, has been appointed chief medical officer of health of that province. Dr. C. J. Fagan, who held the position with pronounced success for many years, died about two years ago.

Dominion Medical Monthly

And Ontario Medical Journal

EDITED BY

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COMMENT FROM MONTH TO MONTH

Against Infantile Paralysis every practitioner in the province must be on his guard. The only demonstrated natural sources are infected human beings. These may be classified as follows: The recognized sick convalescents, the sick not recognizable as poliomyelitis cases, and passive virus carriers apparently in good health.

As to susceptibility, or the converse—immunity, very little can be said. It is generally, however, greatest in the first five years of life.

Prevention takes prominent place in the treatment. Quarantine must be strict and rigid. For the patient, quinine, salicylate of ammonium, urotropin, have been suggested. These should be supplemented with boric acid, or other antiseptic washes for the mouth, nose and fauces.

The Teaching of Sex Problems is a subject demanding the most careful consideration before the adoption of any plan which may be formulated. It is a subject which the medical profession should take up to lend a helping and directing hand for the guidance of social service bodies interested in securing as high standard of morality as possible amongst the young. It should not be left entirely to the laiety. Passivity on the part of the profession might be construed to mean satisfaction with the *status quo*. That may be better than meddlesome education in the public schools.

A contributor, "A. C. E.," presents in this issue an article on the subject under the heading "Charlie Roberts' Conservation." An editorial from the Police Bulletin will be instructing in this connection. It will be found on another page.

BOOK REVIEWS

International Clinics. Volume II. Twenty-Seventh Series, 1916. Philadelphia and London: J. B. Lippincott Company. Montreal Office, 201 Unity Bldg.

Several well-written and instructive papers are contained in this volume, on Treatment, Medicine, Psychiatry, Obstetrics, Public Health, and Surgery. As usual, the illustrations are excellent and add greatly to the value of the volume. There are three colored plates.

The Diagnosis and Treatment of Heart Disease. Practical Points for Students and Practitioners. By E. M. Brockbank, M.D. (Vict.), F.R.C.P., Honorary Physician Royal Infirmary, Manchester; Clinical Lecturer on Diseases of the Heart; Dean of Clinical Instruction, University of Manchester. Second Edition, with Illustrations. Price, 3s. 6d. net. London: H. K. Lewis & Co.

Reading this book one cannot fail to appreciate its practical character. To the student it will afford a ready means of acquiring knowledge of the heart by auscultation. For the man with a large general practice, it will be a useful means of quickly reviewing his clinical knowledge of the subject. There is repetition, but it is repetition with a purpose in view—the saving of the reader's time.

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CIRCULAR OF THE PROVINCIAL BOARD OF HEALTH, ONTARIO, re INFANTILE PARALYSIS

What Is It?

The following instructions regarding Infantile Paralysis are issued by the Provincial Board of Health:

Infantile Paralysis, also called Anterior Poliomyelitis, is a communicable disease chiefly of children between the age of two and fourteen years. Older children and adults may also be affected by the disease.

The cause is unknown. It is known, however, that the agent causing the disease is present in the secretions of the nose and mouth and in the intestinal tract from being swallowed.

The disease is epidemic in some United States cities and in at least one town in Ontario.

It is believed that Infantile Paralysis is spread from one child to another by means of the secretions of the nose and mouth by direct transfer. It is possible also that it is spread by flies which have been in contact with intestinal discharges. It may become widespread in country as well as in crowded city districts, and persons who have been in contact with cases of the disease may harbour the contagion and give it to others without contracting the disease themselves; that is they are "carriers."

What To Do About It.

(1) Every CASE must be quarantined for a period of SIX weeks.

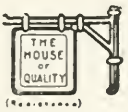
(2) All children who have been in contact with a case must be quarantined and kept under observation for a period of TWO weeks.

(3) Adult members of the family who are wage earners may be allowed to go about their work subject to the regulations of the Provincial Board and on the discretion of the Medical Officer of Health.

(4) Where there is an outbreak, gatherings of children, such as picnics, picture shows, and playgrounds, should be prohibited.

(5) The source of origin of each case should be carefully enquired into in order that proper quarantine may be maintained.

(6) In houses where cases appear all doors and windows should be screened, the premises kept clean, and no accumulation of garbage or waste permitted.



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(7) All cases should be at once notified to the Medical Officer of Health, and by him to the Chief Officer of the Provincial Board.

(8) Mild cases, showing slight headache, rise of temperature and vomiting persisting for a few days, with slight muscular weakness and absence of paralysis, should be quarantined. These are probably one of the chief sources of contagion.

(9) As Infantile Paralysis is a most serious disease and in the present epidemic giving a high death-rate, the public is urged to second the efforts of the authorities in every way in order to prevent a severe outbreak in the Province.

(10) All materials such as cloths, etc., carrying secretions and discharges from patients should be burned, boiled, or disinfected.

If the disease shows any tendency to spread, special quarantine measures may be necessary.

JOHN W. MCCULLOUGH,
Chief Officer of Health.

AS TO JUVENILE DELINQUENCY

The records of Commissioner Boyd's Children's Court for the City of Toronto but confirms the sad records of similar courts, of police courts, and such bodies as deal with juvenile delinquents as to the increase of juvenile delinquency, and the increase of immorality among the young. This is a harrowing condition to find after the elaborate claims made for the setting up of such courts and the declarations of moral reformers that these courts would tend to lessen juvenile vice. The Commissioners of these courts are men of sound judgment, selected because of their supposed special fitness for the position, yet again and again they have been appalled by the facts laid bare before them. It was not the number of cases of the usual boyish or girlish pranks, committed often as the result of overflowing and misdirected youthful energy, neither was it the number of cases of juvenile theft which appalled all who desire our young folks to grow up normal, healthy beings, but it was the amount of juvenile immorality which staggered them as it did all who have been actively interested in juvenile welfare. There is also an increase in vice among youths of both sexes appearing in the police courts, because they are too old for the children's courts.

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There must be causes for this juvenile vice, and only in the discovery of the causes can an effective remedy or remedies be found. Let it be admitted at once that no one person, no organization, even if it contains the wise men and wise women of a community, can solve all the problems facing those specially charged with the cases of these juvenile delinquents and the societies formed to cope with the ever-increasing number of such delinquents.

In all humility, we offer a few suggestions for helping to solve the terrible problem. We know it can be solved in time when Christian men and women take up the problem in real earnest. All this talk and twaddle about teaching sex hygiene to boys and girls at school must cease. It should be a crime for a teacher or any one else except the parents to talk sex hygiene to school boys and girls individually, much less in their classes, although the sexes are separated. We do not suppose any one has yet considered the time opportune to suggest talking the subject to mixed classes, but we expect that to be the next move of the conspirators who plan to debase the youth of Canada and the States under the pretext of saving these young people from evil. Sex hygiene can only be properly taught by the parents. The parents often fail to do this, but a boy and girl had better go out in the world with the knowledge of "good and evil" the Creator gives them, rather than be taught by strangers.

The circulation among the young of sex hygiene books should be prohibited. Many books issued on this subject are like the novels and plays on the subject, simply meant to debase and not educate. In the City of Toronto one can often hear boys and girls from ten years and upwards discussing sex subjects of which they have read or heard addresses on, and these discussions showed that it was always the immoral viewpoint the subject was talked of among these children. We are glad to note that all the best class of book stores refuse to handle certain classes of these books.

The greatest possible care should be taken to ensure clean literature for the young. They should be encouraged in all healthy exercises. All plays and moving pictures dealing with sex questions should be irrevocably banned and no private views of such plays or pictures to clergymen and others should be tolerated, as unfortunately has been the case on several occasions. The law should be made clear and distinct on these matters. Private as well as public exhibitions of filth should be absolutely barred by the Criminal Code.

In defence of these various plans for discussing the sex hygiene question, we are told that it saves the young from immorality and

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that as many parents fail to warn their children of certain evils it is the duty of some stranger, or teacher, or writer to do so. Once more let us remind those apologists for sex hygiene being discussed in schools, etc., that statistics prove beyond the shadow of a peradventure, although there are difficulties in the way of getting all the facts, that during the years of acute discussion of the question, during the years of sex hygiene teaching in some schools, the presentation of plays and moving pictures and the publishing of books on the subject, immorality has increased and diseases due thereto have also increased. There may be a finer veneer to immorality, but immorality has increased. What many vice hunters and commissions have done is to make young people think of these things and so into otherwise pure, clean minds they have put impure and filthy thoughts, with the inevitable result that youthful immorality increases. Then these commissions, nearly always engineered by men, with a few women added, but who are seldom consulted, give out reports invariably blaming women for vice. Never was there a more stupid and unjustified slander on women issued than that which blames them for the immorality. Facts which cannot be challenged show that from fifteen to twenty-five men keep every woman who is "on the street." If any city has a thousand unfortunate girls living by vice, it means from fifteen to twenty-five thousand men supporting them, and a large number of these men are married. In immorality, the demand creates the supply. Reform in the morals of a people must begin with the men. The present plans in vogue for dealing with immorality in our view tend rather to increase depravity. There should be in every populous centre abundant and easily reached playgrounds for all sorts of amusements and exercises for boys and girls. Every school ground should be open for this, as well as many other grounds provided by the taxpayers. A young athlete should be in charge of all playgrounds, and he should have power to punish anyone using profane or obscene language or otherwise misbehaving, to compel boys to be kind and courteous to girls, and girls to treat all well-behaved boys as comrades. Every kind of healthy outdoor sports should be provided in these grounds in the winter. In addition, there should be covered-in winter playgrounds and everything possible done to keep boys and girls from parading the streets. In this work the churches would have a splendid opportunity for service.

On the streets of our cities, towns and villages all the police can do is maintain order and decency. They are unable as police officers to do much to prevent the boys and girls found loafing on the streets from going rapidly on the downward path, although

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always ready and eager to do what they can. There should be in every populous community at any rate, a band of earnest men and women who would watch the young boys and girls on the streets, saying nothing to them while on the streets, for that would do more harm than good, but these boys and girls should be shadowed till their homes are located and next day, or as soon as possible thereafter, the parents visited and talked to about what will inevitably happen if the boys and girls continue to loaf on the streets. In some cases these visitors will be told to mind their own business, and in some others the doors will be banged in their faces. There will be no newspaper glory or sensation for these visitors, but in many cases they will be listened to, and a few years' persistent work will tend to cut off the supply of thieves, burglars, gamblers and women street walkers. The judicious visitors will have many opportunities to help the mothers and encourage the fathers in taking better care of their children. These visitors will always have the very hearty aid of all police officers, for while these officers are, and should be, a terror to evil-doers, they are always the warm friend and supporter of every man and woman working for the good of the community.—*The Canadian Police Bulletin.*

It is a question whether it is wise for a physician to lend money and take a mortgage in the territory in which he practises. It so often happens that when a man needs money he is very grateful to any one that makes the loan, but when the time for paying comes round two or three times he forgets, and if it ever happens that in order to protect himself the lender is compelled to foreclose he is liable to get a reputation of being hard. It is, however, not necessary to invest in mortgages. A much more satisfactory investment could be obtained by lending to whole Municipalities (not only a little piece of it, as represented by a mortgage) by purchasing their debentures. It is then not necessary to spend time in ascertaining if the insurance is paid or taxes remitted, or if the owner is spoiling the farm or property. All you have to do is once or twice a year cut off the coupons representing the interest or principal and deposit it in the bank, in the same manner as you do a cheque.

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Original Articles

THE TREATMENT OF DIABETES MELLITUS*

BY ELLIOTT P. JOSLIN, M.D., BOSTON.

Rather more success is achieved by surgeons in the treatment of general peritonitis than is attained by physicians in the treatment of diabetic coma. In neither condition are the statistics flattering to the profession; but the successes obtained by our surgical colleagues in the prevention of general peritonitis make the failure to prevent coma as a cause of two out of every three diabetic deaths mortifying to say the least. We physicians should begin to regard diabetic coma in the same light as your British brother, Mr. Moynihan, has taught the medical fraternity to look upon the late stages of a neglected gastric ulcer, namely, as an emergency which should not have been allowed to arise.

With this issue of the prevention of diabetic coma plainly to the fore as the cardinal point in the treatment of diabetes, it is pertinent to inquire what diabetic patients are most susceptible to coma? And your own experience will enable you to anticipate that the answer, which an analysis of my own fatal cases shows, will be children. Of the sixty-two diabetic children under the age of fifteen who have died under my care, coma was the cause of death in all, and the significance of this melancholy fact is this: that where diabetes appears in its most severe type, as in children, coma is its expression. The propositions are simpler to state than to execute—first, that the best way to avoid coma is to prevent the progress of a case of diabetes from the mild into the severe type, and second, to protect the patient from all those agencies such as infections, anesthetics like chloroform and ether, undue exertion (mental or physical) which tend toward intensifying the severity of the

*Address in Medicine, Ontario Medical Association.

disease. For if the diabetes is kept mild or moderate the coma need not be feared.

Next to the children in the frequency of death from coma, strange as it may appear, were those of my cases who succumbed during the first year of the disease. The cause of death in eighty-seven per cent. of these was coma. But diabetes is a chronic disease and the first year of its course should be mild rather than severe, and in mild diabetes coma should find no place.

Just as the health officials of a city, zealous to lower its death rate, concentrate their efforts on those sections of the city with the highest mortality, so should we, in the treatment of diabetes, concentrate our efforts where mortality is also greatest—on the children and on those patients who have recently developed the disease. To-night attention will be directed upon the treatment following immediately upon the detection of the disease, for this is where the highest mortality in diabetes now exists.

Reference has just been made to a mortality of 87 per cent. from coma among diabetics who die during the first year of the disease. Is the term "first year of the disease" quite accurate? It is meant to be accurate. I have most conscientiously tried to fix a definite date for the onset of diabetes in all my cases. But honestly would it not be more truthful to say the first year of the recognition of the disease? And herein lies a vast difference, which gives rise to serious reflection, for it is in the first year of the *recognition* of the disease that treatment is begun, and the highest mortality occurs. Disagreeable as such an implication is to hear, some support of it is afforded by the fact that with the increase in the knowledge of the treatment of diabetes, the mortality for the first year of the disease has decreased. It is significant that whereas between the years 1824—1898, of those cases of diabetes dying at the Massachusetts General Hospital, the duration of the disease was under one year in 68 per cent.; for the subsequent fifteen years ending November, 1913, Dr. Brigham and I are able to say, thanks to the courtesy of the hospital authorities, that the mortality during the first year of the disease had fallen to 41 per cent. My friend Professor Naunyn, whom all of you will recognize as a master of diabetes, though his case must have been treated during the generation previous to ten years ago, showed a mortality of only 28.2 per cent., which was the same, as far as I can determine, for the city of Boston for 1915. The period of my

own activity has been later, and so more favorable; perhaps my cases have been less severe, and this may explain first why but 17 per cent. of my own cases have died during the first year of the disease, and second, the more encouraging feature that 95 per cent. of those living have already gone beyond this period. In fact, my own experience is against the idea that properly treated diabetes runs an acute course. Such figures, while they afford reason for gratification at the improvement in treatment, also furnish proof that the high mortality in the first year is unnecessary, and in what follows will be indicated how the development of acid poisoning during this period may be avoided and how to conquer it before coma results.

The prophylactic and etiological treatment of diabetes will surely play an important rôle in the future, and it is already plain that progress will be along two lines: first, towards the early detection of the disease in those susceptible to it. The whole trend of Naunyn's teaching favors the energetic treatment of the slightest evidence of diabetes. The importance of the early treatment of pulmonary tuberculosis is not greater than that of the early treatment of diabetes.

The only way in which an early diagnosis of diabetes will ever be made is to seach for it. The favorable results in fifty-seven of my cases of diabetes revealed by life insurance examinations cannot be explained by the mildness of the diabetes discovered. It is a hopeful sign that the insurance companies are offering to examine the urines of their policy holders gratis at frequent intervals. Everyone should have the urine examined upon his birthday.

Diabetes should be sought in the families of diabetic patients, and in order to allay anxiety of urinary examinations, it is a good plan to have these made with such frequency that they will become simply a matter of routine. Such individuals should be taught to regulate the quantity of food eaten by the body weight, and never to indulge in unusual quantities of carbohydrate.

No pre-existent abnormal condition has occurred more frequently among my diabetic patients than has obesity, and it affords a splendid opportunity for the physician in which to practise preventive medicine. Patients should be cautioned against suddenly gaining weight at any period, but particularly after infectious diseases. The development of diabetes following infectious diseases and in the course of pregnancy always should be borne in mind. Finally, anything which tends to

promote the mental and physical welfare of the patients will tend to prevent the onset of diabetes.

Surgery may find a field for treatment in the future more than it has in the past. I recall eight cases of diabetes associated with gall stones which have run an unusually favorable course as soon as the symptoms of gall stones have subsided, either as a result of medical or of surgical treatment.

That temporary periods of under-nutrition are helpful in the treatment of diabetes will probably be acknowledged by all after these two years of experience with fasting. In no other way can one so readily keep the urine free from sugar, and this is the foundation of all diabetic treatment. With a sugar-free urine there is seldom any opportunity for coma. The inauguration of the treatment and the prolonged continuance of the same are problems which present the most difficulty. Practically the only danger associated with the former is the possibility of acid poisoning at the beginning of the fast, though it can be emphatically stated that it is the rule for acid poisoning to decrease rather than to increase as the fast continues. But on account of the few cases where it does increase it is safer to prevent acidosis than to allow it to develop. This is the reason for what might be called a preparatory treatment for fasting, for it can be assumed that a method of treatment which approaches or embraces fasting is the best method we possess. It is a sound rule of all treatment that patients coming to the physician in an endurable state must not be made worse or have their lives jeopardized by the therapeutic procedures adopted.

Treatment is simplified if acidosis is prevented, because no urinary tests will, as a rule, be required save a qualitative test for sugar and the simple ferric chloride reaction for di-acetic acid, and such simplification of method is necessary when we realize that most physicians do not have more than five or ten cases of diabetes a year and therefore cannot devote to these a proportionately large share of their time.

Individuals predisposed to acidosis are those in whom the disease is of long duration. These are the patients who, after having lived in a fairly comfortable condition for years, finally succumb to active treatment within a few days of its commencement. All complicated cases, especially those in which the complication involves the kidneys, heart or thyroid, demand preparatory treatment, for they are especially susceptible to acidosis. In this group are also included elderly patients, because of their vulnerable kidneys. Very fat diabetics could appro-

priately be included, and so too, patients about to undergo surgical operations. Finally, all patients showing signs of acid poisoning demand this preparatory treatment before the fast, unless the physician is in a position to watch quantitative changes in the acidosis from day to day.

The principle upon which preparatory treatment is based is simplicity itself—the exclusion of the source of the acid poisoning. Since the chief source of acid poisoning is fat, this constituent of the diet is prohibited before any further change is made. If this rule is adopted, the opportunity for the patient to develop acid poisoning is greatly reduced, and for two reasons: first, the chief source of acid bodies is removed, and no fat is then available for the formation of acid bodies except the fat of the body; second, in consequence of the partial fast, which is thereby initiated, the possibility of oxidation of some of the carbohydrate which the patient is eating is afforded, and if this should fortunately take place, acidosis is sure to decrease. So strongly have I been impressed by the stormy career of the diabetic patients in whose diet carbohydrates have been suddenly restricted and fat increased, in contrast to the placid course which those pursue from whose diet fat has been excluded and the carbohydrates left unchanged, that whenever I am asked to see a new case of diabetes I beg the physician either not to change the diet at all, or to simply omit the fat until the consultation takes place, and when the patient actually comes for treatment I first omit all the fat in the diet, after two days the protein as well, and then have the carbohydrate on successive days until ten grams are reached unless the patient is already sugar-free, and thereafter fast.

The days of preparation for the fasting are also advantageous in that they allow opportunity to examine into the general condition of the patient. It would be absurd to feed a patient without teeth with coarse vegetables, or to give these to another patient who has diarrhea. The bowels must be thoroughly opened, but I do not believe in free catharsis. Gain enough is obtained if a movement is produced once in twenty-four hours when it has only been taking place once in three days. In other words, do not upset any patient who is in a tolerable state. Furthermore, allow the patient to continue his regular routine, avoiding excess in any direction. Remember what happens to an old man who is suddenly confined to bed, and the discomfort which follows confinement following a fracture. Do not force a temperate man to drink against his will.

An advantage which the omission of fat from the diet affords is the rest which is given to the digestive tract. Former treatment, which increased the fat in the diet, was the converse of this, and frequently led to vomiting, with the result that patients on the verge of coma fell into it. In every way seek to prevent worry on the patient's part, and from the start give them to understand that they are at school rather than at a hospital.

After the preliminary measures have been taken to prevent the appearance of acidosis one may proceed with fasting. Fasting is never so rigorous as doctors or patients expect. Patients are more ready to undergo it than physicians to prescribe it. Quite as often it is as much a relief to the patient as it is a discomfort. This is in part due to the gradual decrease in polydipsia and polyuria. Headache occurs less frequently than I expected, and is usually dispelled by a cup of coffee. Nausea almost never occurs unless a patient is given alkali or alcohol. Children bear it more easily than adults. Case No. 899 with onset at 83 shunned it and rightly, but she became sugar-free and her family, at first reluctantly, but now emphatically, agree, with distinct benefit. In fact, it is always desirable to avoid fasting in the old, and this can ordinarily be accomplished by the help of preparatory treatment, because the simple omission of fat and reduction of protein and carbohydrate will usually suffice to make the urine sugar-free.

Fasting does not seem like fasting to the patients when they receive coffee, tea, cracked cocoa and broths, and are given an unlimited supply of water. If the quantity of urine, as it often does, falls to less than normal, the patients are urged to drink water freely. Clear meat broths are a great satisfaction. Contrary to my experience with digestive cases, broths do not stimulate the appetite in fasting diabetics; they relieve it. The advantage of broths is probably due in part to this, but to a considerable extent to the patient receiving salt by which he may maintain the equilibrium of the body fluid. It is possible that the salt is a more important factor in the treatment than has been supposed.

Patients should not be kept abed during fasting, neither should they be forced to be up all day. They should be afforded diversion by visits from friends, walking short distances, easy handiwork, playing games, letter writing and reading. In general they are glad to rest for the greater part of the first day of the fast, but upon each succeeding day I have noticed that they are desirous to increase the amount of exercise, and the exer-

cise appears to lessen the necessity for a prolonged fast. Case No. 765, a trained diabetic, who returned to the hospital in order to become sugar and acid-free, at the end of three and one-half days of fasting, enjoyed, without fatigue, going to the theatre. I confess this was not with my advice, for I have endeavored to prevent exposure to any infectious disease of all diabetic patients during fasting. However, Case No. 938, a child of two and one-half years, underwent fasting treatment successfully in the presence of a mild infection of the upper air passages.

It is surprising how variable is the period required to render the urine sugar-free. Frequently a urine which contains 7 per cent. of sugar becomes sugar-free after four meals of fasting, and conversely a urine with only three per cent. of sugar may still retain traces after the patient has been deprived of food for three or four days. In general cases seen soon after onset become sugar-free promptly, whereas the reverse is generally true for those of long duration. Children showing large quantities of sugar have also become sugar-free very promptly when the duration has been only a few weeks. I have a suspicion that cases of long standing will actually become sugar-free more quickly if they undergo preparatory treatment than if they are fasted immediately. This may be due to the avoidance of even a slight acidosis. Even a slight acidosis must be conquered.

The observation of Folin and Denis that an obese individual, though otherwise normal, developed marked acidosis upon fasting, but went through a second period of fasting with less acidosis than the first and the practice, observed by many clinicians of the old school, who advantageously fasted their diabetics one day a week, has given the cue to intermittent fasting.

For a good many months none of my patients have been subjected to a fast of more than four days. A prolonged fast is unnecessary, and even if the fast is carried out, it is doubtful if the patient would always become sugar-free. The apparent reason for the persistence of sugar in Case No. 610, who fasted for nine days, was the presence of a vulval abscess, and inquiry among my friends shows that an infection of some kind is usually present when glycosuria persists after a fast of a few days' duration. This is not always the case, for the difficulty in rendering the urine sugar-free may be simply due to the extreme severity of the disease.

Alternate feeding and fasting are adopted when it is found that the glycosuria persists after a preliminary four days' fast. The method which I have found most successful has been to allow, following the first fasting period, 20 to 40 grams carbohydrate—not far from half a gram per kilogram body weight—and about one gram of protein per kilogram for two days. The sugar promptly increases in the urine, but if one averages the excretion of sugar in the urine of these two days with the two days at the beginning of the fast, the result is encouraging. Then fast again; but the second fast is a day shorter than the first, and the second period of feeding a day longer, until by the fourth period of fasting the patient goes without food only one day and then is given food for four days. This schedule need not be followed exactly, but the general plan has proved most efficacious.

When the 24-hour quantity of urine is sugar-free one can usually give a few grams of carbohydrate to the patient without the appearance of glycosuria. The carbohydrate is generally given in the form of five per cent. vegetables, choosing those which are especially bulky. A plateful of lettuce appeals much more to the patient than a small saucer of string beans. When a mixture of five per cent. vegetables is given one can be quite sure that the average content of carbohydrate is not more than three per cent., or approximately 4½ grams for the 150 grams prescribed, and for convenience sake this is reckoned as one gram of carbohydrate for each 30 grams (one ounce). This small amount of food, of course, has little nutritive value, but is enough to break the fast. Upon succeeding days 5 or 10 grams of carbohydrate are added daily. A patient fasting or on a very low diet often shows an apparent tolerance for carbohydrate far in excess of that which he would have shown if the necessary protein and fat in his diet were simultaneously administered.

Following the trial with five per cent. vegetables the addition of carbohydrate can be made according to the desire of the patient until the tolerance is determined.

With children one often makes the mistake of increasing the carbohydrate five grams daily, forgetting the fact that five grams of carbohydrate to a child weighing twenty kilograms is in the same proportion as fifteen grams of carbohydrate to an individual of sixty kilograms.

Patients who have lived for a considerable length of time on a comparatively low tolerance for carbohydrate may upon

trial show that the real carbohydrate tolerance is much greater than supposed. The most striking example in my series has been the patient already referred to—No. 610, who fasted for nine days without becoming sugar-free. During the last twelve months she has lived comfortably, but the quantity of carbohydrate in the diet has been represented by 60 c.c. of cream (two grams) for all her vegetables have been thrice washed. Despite this rigid diet sugar kept recurring every few days, but she persisted to drive it out by fasting. Recently upon re-entrance to the hospital she became sugar-free overnight, and thereafter the steady addition of 10 grams of carbohydrate a day in the form of vegetables up to 55 grams, failed to cause glycosuria, to the surprise of us all. At length, as a test, she drank 55 grams of laevulose and even then the urine remained sugar-free. At this time the protein in the diet was represented only by that contained in the vegetables. Thereafter it was gradually increased, and along with it a little fat, so that finally, at the end of ten days following her re-admission to the hospital, she was taking 55 grams of carbohydrate, a gram of protein per kilo, and at this writing sufficient fat to be equivalent to about 25 calories per kilogram body weight. Contrast this picture with that of a year ago, when it was necessary for her to fast nine days to make the urine sugar-free and when a diet of two grams of carbohydrate led to the appearance of sugar in the urine. This very recent experience has given renewed hope to my patients who have been watching its development and to me. It is a fresh demonstration of the efficacy of energetic treatment.

As a rule when the urine has been sugar-free for two days, 20 grams of protein are added to the diet, and thereafter 15 grams of protein daily until the patient is receiving one gram per kilogram body weight. The protein may be given either in the form of eggs, lean meat or fish; an egg of average size contains approximately 6 grams of protein and 30 grams (1 ounce) of lean meat contain approximately 8 grams. By this arrangement a patient weighing sixty kilograms would be taking, within six days from the time he became sugar-free, one gram of protein per kilogram body weight. This quantity is quite satisfying to all except children—in fact, it astonishes me to find how few patients care to take as much as a gram and a half of protein per kilo body weight. Children, however, crave and need considerably more, and indeed take with avidity as much as two grams protein per kilogram body weight.

Fish is especially desirable in the early days of protein feeding because it contains so little fat. Cod and haddock, for example, contain less than one per cent.

The advantage of giving and increasing protein simultaneously with the determination of the carbohydrate tolerance is that one approaches more nearly normal conditions. What the physician is after is to determine the carbohydrate tolerance while the patient is on a full diet, and not the tolerance for carbohydrate alone, but it is possible that one should defer the addition of protein a few days longer if the carbohydrate can be steadily increased without the appearance of sugar.

There are very few patients who will not bear at the outset as much as one gram of protein per kilogram body weight, and I am very loath to allow the protein to remain permanently below this figure. This can be avoided by still further restricting the carbohydrate, either temporarily or permanently. It is always necessary to bear in mind that one food which the diabetic patient cannot do without is protein, and to it everything else must be subservient.

While testing the protein tolerance, a small quantity of fat is included in the eggs and meat given. It is not at all disadvantageous—in fact, the same rule holds for the testing of the carbohydrate and protein tolerance in the presence of fat as has been said for protein alone. There are two important reasons why fat is not given to the diabetic patient immediately upon his becoming sugar-free: First, by the omission of fat partial fasting is continued and thereby the patient is gaining a tolerance for carbohydrate, and second, the continued omission of fat is beneficial in counteracting the last vestige of acid poisoning, or preventing the appearance of acid poisoning, which easily might occur in a diabetic patient whose metabolism has not become accustomed to so low a quantity of carbohydrate. But so soon as the patient has received the essential gram protein per kilogram body weight, the fat in the diet should be increased above the 15 to 20 grams which undoubtedly are introduced with the protein ration. If the patient is one in whom acidosis has been an essential factor, or if the patient is obese, the fat should be increased slowly, and for such a patient an increase of five to ten grams a day may be all that he can take without the recurrence of a positive ferric chloride reaction in the urine. On the other hand, attention is called to Case No. 765, who, after persistent periods of intermittent fasting, became sugar and acid-free, and yet the immediate

addition of thirty grams of fat per day failed to cause the reappearance of acidosis. Cases which have shown little acidosis may easily be allowed an increase of twenty-five grams fat daily, and for such cases this is desirable, because it rapidly brings the total caloric value of the diet up to a normal figure. Naturally, patients in whose treatment a loss of weight is desired would be given smaller quantities of fat.

The total number of calories which a diabetic requires varies not only with each case, but varies with each case each day. Schematic rules do not hold. One must remember that an individual trained to be quiet and lying down can get along with only twenty calories per kilogram body weight reckoned per twenty-four hours, whereas the average of a large group of normal men and women, not especially trained for the test at the Carnegie Laboratory, consumed twenty-five calories per kilogram body weight reckoned also per twenty-four hours. Habits of individuals vary widely. Some are quiet and some are active. All these considerations should be clearly borne in mind by doctors and patients in order not to allow themselves to be held too rigidly by any caloric fetish. Patients coming for treatment with severe acidosis consume from 10 to 20 per cent. more calories per kilogram body weight than patients after they have become sugar-free and free from acid.

After the diabetic has become sugar and acid-free, he apparently gets along, as Naunyn long ago pointed out, with a smaller amount of food than an ordinary individual. This may be so. From a study of dietary charts in diabetes it appears probable, but I do not believe the question yet settled. Before this can be done, studies should be made upon cases of diabetes of the severest type who have become sugar and acid-free, and remained so for a period of weeks. The caloric values of their diets should then be quantitatively determined. Ordinary calculations, based on dietary tables, will not suffice. Actual analyses of the diets of a group of such patients for a period of several weeks should be made. This is by no means an impracticable matter, and I think the accomplishment of it would be of the greatest help to diabetic patients and would settle any mooted points.

Should the calories be raised above a minimum portion in severe cases of diabetes, glycosuria will return. Therefore great care must be taken to prevent over-eating and undue gain of weight.

The return of sugar demands fasting for twenty-four hours, or until sugar-free. This rule should be inflexibly followed, especially with children. In hospitals it simplifies the treatment enormously. So soon as it is understood that the reappearance of sugar means a fast for twenty-four hours thereafter, there is little tendency to break over the diet. Furthermore, most patients are thrifty enough to see the disadvantage of paying their board with no return. The rule must be rigidly enforced with children, because with them disobedience means death. When a patient has been made sugar-free by a preliminary fast, starvation for twenty-four hours will almost invariably be sufficient to free the urine at once if the sugar returns. This will not be the case unless the presence of glucose is promptly detected, and hence the necessity for the patient's examining his 24-hour urine daily. Following this accessory fasting day the previous diet of the patient may at once be resumed, except for the elimination of half of the carbohydrate, or the original course of treatment may be followed, passing through the different stages at a more rapid rate.

The advantage which the older clinician derived from the use of one day's fast in seven in the treatment of his diabetic patients should ever be borne in mind. One striking characteristic of Dr. Allen's helpful suggestions in the treatment of diabetes (and I cannot say more than I already have said elsewhere of my high appreciation of his work) has been that he has apparently sought out every method which anyone has found useful in the treatment of diabetes, tested its worth, and endeavored to adopt it to modern conditions.

The mild case of diabetes is the case which demands the most energetic treatment, but hitherto has received the least. These cases are analogous to the cases of incipient tuberculosis. As in tuberculosis, a cure may not be effected, but the disease is held in check. Emphasis should be placed on freedom from glycosuria. Naunyn's dictum that many a severe case was originally mild, but neglected, should not be forgotten. It may not be necessary for such patients to practise fasting.

In our enthusiasm for new methods it should not be forgotten that even in the past good results were obtained with many diabetics, and that gradual restriction of carbohydrates and the total diet was the means employed. Incidentally, this is good proof that most diabetics are not severe.

It would be wrong to give the impression that the treatment of severe diabetes is simple and free from anxiety. It is

true that it is much easier and causes infinitely less worry to the physician than heretofore, but these patients are in most unstable equilibrium and a little upset of trivial character may lead to much danger. The physician who treats severe diabetes successfully must constantly be in close touch with his patient. Forewarned, forearmed! I like to have at least a glance at a severe case of diabetes two, three or four times a day, and the amount of information furnished by the laboratory is never too great.

WOUNDED SOLDIERS IN TRAINING—THE GOVERNMENT'S NEW SCHEME—ALLOWANCES FOR THE MEN AND THEIR FAMILIES

We Canadians are absolutely unanimous about one thing in this war—that justice and reparation must be secured for those who have suffered. The men who have volunteered to fight for us, while we have stayed safely at home—these men, coming back shattered and torn, or with health in any way impaired by their service, must have reparation, and from us.

It is the first word of justice; and there is no Canadian worthy of the name who will not agree to it with all his heart.

Our head as well as our heart, however, must be employed to devise a form of reparation that will really repair,—that will as far as possible make up to these men what they have lost.

From the beginning of the war it was recognized that a man offering his body to defend our cause should have compensation for any injury his body might suffer in the carrying out of that task. A scale of pensions was adopted both for disabled soldiers and for their dependants, in proportion to the degree of disability. A revised scale, involving a large increase of expenditure, was lately agreed to by a Parliamentary Committee and is already in force.

A pension alone, however, will not restore the injured man to his place as an active and useful member of the community; and that has got to be done, by some means or other, both in the community's interest and in his own.

A very few of the injured will be found so totally helpless that this restoration is impossible. On the other hand, judging by our experience so far, a large majority, in spite of their injuries, will still be fit for their former work. But between these two classes will be many men with injuries either handicapping

them seriously in their old occupations or barring them out altogether.

Such men must not be condemned to perpetual uselessness. They would not thank us for that. They are not of the back-boneless kind, or they would hardly have thrown themselves into the war. They did not enlist to be coddled or spoon-fed, and they will not want to be coddled or spoon-fed now. Having recovered their strength, they will naturally expect to use it. The question simply is—How?

To begin with, their disability can often be lessened by what is called "functional re-education." By special exercises, with or without the aid of the ingenious apparatus invented for the purpose, the muscles mutilated by wounds and operations, and weakened by compulsory disuse, can recover some of their strength and become once more accustomed to exertion. Then, by "vocational re-education," the men can be enabled to return to their original trade; or, when that is impossible or undesirable, they can be helped to fit themselves for another occupation. There is no intention, by the way, to provide re-education for men who do not need it.

The Parliamentary Committee decided that the cost not only of pensions and artificial limbs but also of this vocational training should be paid by the Dominion Government.

The Military Hospitals and Convalescent Homes Commission, with Sir James Lougheed at its head, has already given a great deal of consideration to the matter, and has taken steps to organize the training required in many parts of the country. The complete establishment of the system may be expected very soon; for the Government, by Order-in-Council, has just adopted a report of the Military Hospitals Commission, of which we are enabled to give this summary:—

The report begins by explaining that the Commission aims at benefiting not only disabled members of the Canadian Expeditionary Force but also disabled reservists of the British and Allied armies who were *bona fide* residents of Canada when the war broke out.

The Commission has received the assurance, it tells us, of the active co-operation of the Provinces and various Municipalities in carrying out such a policy. Technical schools, agricultural colleges and other public institutions have agreed to receive disabled men for training, and many offers have also been received from private commercial establishments to provide training and subsequent employment when the men have become proficient.

The period of training for a new vocation will vary according to the previous education and industrial history of each individual. The cost of tuition will vary in consequence, and also owing to the fact that in many cases the tuition will be free or the fees nominal. (The training will be free to the men in all cases. If there is any charge, it will be paid by the Dominion Government).

The Commission has already undertaken the provision of training in general subjects and elementary vocational work for all men under treatment in the various hospitals and convalescent homes operated by the Commission, irrespective of whether or not such men will later be subjects for vocational training leading to new occupations. In a few cases, arrangements have also been made for that special training.

The Commission was not able, however, to put into operation a general scheme of vocational training until a scale of maintenance could be arranged for the men undergoing the training and for their dependants. The Commission has therefore prepared a scale under which a small sum for personal expenses will be granted to the men undergoing training, while provision on a sliding scale is made for married men and their dependants, and for those unmarried men who may have persons legally dependent upon them.

Here is the scale which the Commission has now been empowered to establish. It will be understood throughout that "maximum age" means 16 for a son and 17 for a daughter:—

1. A single man, with pension, living in, receives free maintenance; that is, board, lodging and washing.

2. A single man, with pension, living out—60c. a day.

3. A married man, with pension, living in—free maintenance and $8 a month, with the following additions:—

For wife having no children, $35 a month, less her husband's pension.

For wife and one child, if child is under five, $38; from five to ten years, $39.50; from 10 to maximum age, $42.50; less, in every case, the amount of husband's pension and children's allowances under the pension regulations.

For wife and two children, from $41 to $47 a month (less pension and allowances) according to age of children.

For wife and three children, $44 to $50 (less pension and allowances), according to ages.

For wife and four children, $47 to 53 (less pension and allowances), according to ages.

For wife and five children, $50 to $55 (less pension and allowances), according to ages.

For wife and six children, $53 to 55 (less pension and allowances), according to ages.

A wife with seven or more children under the maximum age may be given the maximum allowance of $55, less pension and allowances.

All these allowances for wife and children will be paid direct to the wife, unless otherwise thought fit by the commission.

4. A married man living at home will receive 60c. a day. (This of course is in addition to the allowances for wife and children).

5. A widowed mother, if dependent entirely upon the unmarried son who is receiving training, and if the son made an assignment of his pay to his mother and also arranged for her to receive separation allowance while he was on service, may be paid at the same rate as the wife of a married man with no children.

6. The parents of a man undergoing training, if both are old and past work, and entirely or partially dependent upon him, may also be paid at that rate.

7. The guardian of a widower's children (under the maximum age) will be paid monthly:—For one child, $10; for two, $17.50; for three, $22; and $3 for each child in excess of three, with a maximum of $35.

Payments under these regulations will be continued for one month after the completion of vocational training, whether the man has secured employment or not.

It is clear that this system of allowances will enable many men to take advantage of the training offered, by providing for their families while the training is being given.

The President of the Military Hospital Commission asks us to say that any further information desired by our readers will be gladly given on application to the Secretary, at 22 Vittoria Street, Ottawa.

Dominion Medical Monthly

And Ontario Medical Journal

EDITED BY

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COMMENT FROM MONTH TO MONTH

Provincial Temperance Acts have gone, or are going, into operation in different provinces of Canada. The occasion offers an unusual opportunity on the part of provincial governments, through their boards of health, to make a scientific study and record of the effects of enforced abstinence from alcoholic beverages. Heretofore it cannot be said that any government, provincial or federal, or for that matter, any government in any country, has ever conducted an exact scientific study of the effects of alcoholic beverages of different kinds upon individuals, or groups of individuals.

In Canada, for the past forty years, we have had temperance lodges, signing the pledge, Dunkin Acts, Scott Acts, Crooks' Acts, Local Option Acts, High License, Restricted License, Abolish the Bar, and now, Provincial Prohibition Acts. In the face of all these, in the face of floods of ink and floods of speech, up to the last two or three official years, year by year the per capita consumption of alcoholic beverages regularly increased throughout Canada. It has been claimed that this was due to the unprecedented immigration from foreign countries which Canada

enjoyed, or otherwise, during the past one and one-half or two decades.

It has been observed that there is no reliable test for drunkenness, which is the *bête noir* of the whole alcoholic problem. On the other hand, however, there is the fairly reliable test, or index, for chronic alcoholism, namely, the incidence of delirium tremens.

Had our provincial boards of health reliable statistics at hand of the incidence of delirium tremens in any province during the past six months, and a comparison made with such in the succeeding six months after the adoption of temperance, or prohibition, measures, then there would be reliable and authentic information to tell the good, or the reverse, effects of temperance measures. As the alcoholic problem has been for many years, more or less, a football to be kicked about by party politicians, they should now concern themselves more with the scientific aspect of the question and so provide the machinery for the collection of scientific information on the subject.

Judging from the advertisements in the public press, there is an urgent invitation to fill the wine cellar at home and so provide for future demands. It will be interesting to watch, and record if possible, any increased chronic alcoholism in the community, as the temptation must surely be stronger when the drink is ready to hand, and this will be best indexed up by the incidence of cases of delirium tremens. Should this prove not to be the case it will be one good count in favor of a prohibitory enactment.

It has been said that cutting off the liquor leads in many cases to drug addiction. Drug addiction is said to be on the increase in various centres in Canada. It will be interesting to watch to ascertain if it will be more so after prohibition goes into effect.

Quite possibly legislation will soon be required in that direction too. The Medical Council of Ontario has advised the members of the medical profession to exercise a wise discretion in the writing of prescriptions for alcoholic liquors. They may well pray to be delivered from both the alcoholic and the drug addict.

The Farmer is not much Concerned with the Occupational, or Industrial Diseases. But there is one occupation on the farm which in recent years has undergone widespread development and, therefore, calls for the drawing of widespread attention to the dangers connected therewith. The silo is a

modern innovation, first built in America in the year 1875. The dangers, then, herein recited are liable to affect a large number of persons, and they are not solely inherent in the old type of pit-silos dug in the ground, for the disaster here referred to occurred in a modern upground metal silo.

The case was published in the *Journal of the American Medical Association,* October 31st, 1914.

"At the Athens (Ohio) State Hospital, at about seven o'clock in the morning of September 19th, 1914, four members of a squad of six men ascended the ladder on the outside of the silo in question to an open door about twelve feet from the top, and jumped in, one after the other, on the silage, the level of which was about six feet below the doorway. Within five minutes, as reported, the next two men who ascended shouted down that the first four looked as though they were dead. A large force of workers who were at hand immediately ascended the silo, and opening a lower door which was just above the level of the silage, hurriedly removed the unconscious forms, and, in spite of the immediate arrival of four or five physicians from the institution, all attempts at resuscitation failed."

These cases of fatal asphyxia were ascertained to be due to poisoning from carbon dioxide; and the hazard appears to lie in daily fillings, with nightly interruptions of immature corn cut into fine pieces.

Ten per cent. of carbon dioxide in the air, according to Rambousek, will cause asphyxia.

At the time of the filling of a silo the composition of the air within is the same as that of the atmosphere without the structure. Immediately after the cut fodder is ensiled, heating takes place, due to the direct respiration of the plant cells, increased by the cutting of plant tissues, by intramolecular respiration of ensiled material, with resulting absorption of oxygen by the plant tissues which continues until all the free oxygen in the air spaces is consumed. There is evolution of carbon dioxide which is the principal preserving agent in the silage, as the escape of the carbon dioxide from the silo will immediately start decay.

It would be quite the natural thing for the four men awaiting the arrival of the other two helpers to settle down and recline upon the inviting bed of ensilage—the danger zone being possibly one and one-half to two feet above the level of the partly filled structure.

The precautions to be taken in filling silos consist in keeping the doors immediately above the level of the silage open, or driving out any suspected gases before entering by means of an umbrella or some large improvised fan. It would be well also to note the effects upon the flame of a lantern.

Prompt removal to the open air and artificial respiration, in the absence of mechanical devices to induce respiration, offer the best the layman can do until the arrival of medical aid which will have little to supplement.

Infantile Paralysis could most likely best be controlled and treated by the medical officer of health in any community, just like smallpox. All the physician would do would be to make a diagnosis, have it confirmed by the medical officer of health, who would then take complete charge of the case.

In a symposium on Infantile Paralysis before the Academy of Medicine, New York, recently, two predominating principles stand out in the treatment of these cases, namely, isolation and quarantine; hospitalization.

Although isolation hospitals were not solely used for the control of the New York epidemic, nearly all the large public hospitals and private institutions, in addition to the hospitals under the control of the Department of Health, admitted and isolated these cases.

Hospitalization should be insisted on in any and every community; and hospitals should be prepared to handle these cases by the organization of special staffs, consisting of a pediatrist, a neurologist and an orthopedist.

It is doubtful if, at the appearance of infantile paralysis, any case should be allowed to be treated at home, even though a trained nurse is employed, and isolation of the patient practised, and quarantine of other members of the family carried into effect.

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CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

The Fifteenth Annual Meeting of the Canadian Association for the Prevention of Tuberculosis will be held in the Parliament Buildings, Quebec City, Que., on Tuesday and Wednesday, 12th and 13th of September, 1916, beginning on Tuesday at 2 p.m.

Programme.

Tuesday, September 12th.—2.00 p.m. Reports from Delegates. Report of Executive Council: Geo. D. Porter, M.B., Secretary. Nomination of Committees. "Why Notification of Tuberculosis is Necessary," P. H. Bryce, M.A., M.D., Chief Medical Officer Department of the Interior. "Reasons Why Open Cases Should be Isolated," J. H. Holbrook, M.D., Mountain Sanatorium, Hamilton, Ont.

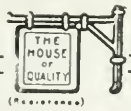
8.00 p.m.—Address of Welcome, Sir Evariste LeBlanc, Lieut.-Governor of Quebec. President's Address: Hon. J. W. Daniel, M.D., St. John, N.B. Public Address on Tuberculosis, J. E. Dube, M.D., Montreal.

Wednesday, September 13th.—10.00 a.m.—"The Visiting Nurse," Anti-Tuberculosis Work in a Small City: F. C. Neal, M.D., Peterborough, Ont. "Advantages of Early Sanatorium Treatment," David Townsend, M.D., Jordan Memorial Sanatorium, River Glade, N.B. "Place of Dispensary Work," Armand Rousseau, M.D., Quebec. Reports of Committees. Election of Officers.

2.00 p.m.—Public Health Convention opens.

Reduced Rates to Delegates.

All persons east of Fort William attending the annual meeting of either the Tuberculosis Association or the Public Health Association or both are urgently requested to purchase single fare tickets to Quebec and to secure Standard Certificates, properly filled in by the local ticket agents. When a through ticket cannot be secured, a single fare ticket and standard certificate should be secured at each junction point. This is specially requested of persons coming a short distance, for if 100 or more certificates are presented, the return ticket is issued at one-third the single fare. This includes privilege of travelling via Canada Steamship Lines, Ltd. (R. and O. Div.) on going journey and return rail, or vice versa, between Toronto or Kingston and Montreal. Tickets for



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the going journey will be issued September 8th to September 14th inclusive, and properly validated certificates will be honored for tickets for the return journey up to and including September 19th. Members are requested to place their tickets or certificates in the hands of the Secretary at place of meeting in Quebec on their arrival. A special agent will be present September 13th and 14th for validating same for which a fee of twenty-five cents will be charged.

TREATMENT OF INFECTIOUS DISEASES WITH THE SERUM OF CONVALESCENTS

Shortly after the discovery of diphtheria antitoxin, numerous efforts were made to find antitoxins for various other infectious diseases, as it was believed that the principle illustrated by the treatment of diphtheria with antitoxin serum was one of general application. It soon was learned, however, that only in diphtheria and tetanus is recovery dependent on the direct neutralization of definite toxins by specific antitoxins. In the course of this search for specific methods of treatment it was proposed to use the serum of convalescents from attacks of certain familiar infectious diseases. In a recent issue of the *Journal of the American Medical Association,* there appeared an annotation reviewing various efforts in this direction, recorded by continental investigators, which may usefully be quoted at some length. As long ago as 1896 Weissbecker* tried the subcutaneous injection of 10 c.c. of the serum of convalescents in measles, scarlet fever, typhoid fever and pneumonia, reporting good effects, especially in the latter disease. He reasoned that recovery from these diseases is the result of a natural immunization, and that consequently the blood of convalescents may be assumed to contain specific antitoxins or, more broadly, specific anti-bodies.

Huber and Blumenthal† were impressed favourably with the effects of specific convalescent serum in scarlet fever, measles and pneumonia, and von Leyden‡ described sixteen cases of scarlet fever treated in this way, in three of which crisis occurred immediately after the injection of the serum, the quantity of which varied from 10 to 20 c.c. In one case the development of the rash was arrested. Von Leyden makes no mention of the exact time

*Ztschr. f. klin. Med., 1896, xxx, 312; 1897, xxxii, 188.
†Berl. klin. Wchnschr., 1897, xxxiv, 671.
‡Deutsch. Arch. f. klin. Med., 1902, lxxiii, 616.

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after the attack when he obtained the serum. This report was followed during the next year by a few further reports, mostly with "good results"; but now the method fell into abeyance until 1912, when Reiss and Jungmann§ described their results in cases of scarlatina gravissima.

Reiss and Jungmann used serum obtained about the end of the third week after the onset, injecting from 50 to 100 c.c. intravenously. Twelve cases are described, all injected not later than the fourth day, and in all there followed a rapid improvement as by crisis within fourteen hours or so, which was in marked contrast to the course in cases not so treated, in which recovery by crisis occurred only occasionally. The serum did not seem to have any effect on secondary infection. In some cases the rash faded away immediately after injection of the serum. Koch‖ has reported on twenty-eight additional cases, treated with convalescent serum in the same hospital. Only one death occurred, and in that case the patient was moribund when admitted. Koch emphasizes that in this series of extremely severe, toxic scarlatina, hemorrhagic nephritis did not develop, that the improvement in many cases was as striking as that seen in diphtheria after injection of antitoxic serum, and that the serum must be injected intravenously in quantities not less than from 50 to 100 c.c. even in small children, and not later than the third day. Koch also reports good effects in twelve cases injected intravenously with normal human serum, and Rowe¶ was unable to convince himself that there were any different effects in cases treated with normal and with convalescent serum. Koch, however, states that the superiority of convalescent serum is seen clearly in the very severely toxic cases with coma and cool and bluish skin. In order to secure the best effects, the mixed serum from several convalescents is used after it has been stored for some time. The serum should be obtained about twenty-one days or thereabouts after the onset. The most rigid tests must be used to determine freedom from tuberculosis and syphilis on the part of the donors, and the sterility of the serum established by cultural methods. In hospitals for scarlet fever there need be no difficulty in having on hand suitable serum from convalescents. Koch suggests that such serum be reserved for the gravest cases, and that otherwise normal serum be used. As yet no explanation is offered of the alleged benefits of normal serum. Schultz* believes he has

§Deutsch. Arch. f. klin. Med., 1912, cxii, 70.

‖Munchen. med. Wchnschr., 1913, lx, 2611; Deutsch. med. Wchnschr., 1915, xli, 372.

¶Med. klin., 1913, ix, 1978.

*Deutsch. Arch. f. klin. Med., 1914, cxv. 627.

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shown that the effect does not depend on lipoids that are extracted in the cold. Netter† recently has used the serum of persons who had had poliomyelitis in the treatment of the acute attack, giving the serum intraspinally in small doses repeated daily. He says the results were good.

If it be asked what may be expected from this method of specific treatment, the answer must be that only by continued critical observations can its value be determined. The results described in the severe toxic forms of scarlet fever would seem to warrant extended trial under suitable conditions, and that would mean in hospitals where convalescent serum can be kept on hand in such mixtures as are most likely to insure some specific anti-scarlatinal virtues. Where such serum is not obtainable, there is no reason why sterile, non-toxic, normal human serum should not be tried in severe and desperate cases.—*The Medical Officer.*

REPORT ON THE RADIUM TREATMENT AT THE ROYAL INFIRMARY, EDINBURGH, DURING THE YEAR 1915

Turner (*Edinburgh Medical Journal,* March, 1916) observes that myeloid sarcomas in particular yield very readily to radium, and when they are so situated as to be capable of being sufficiently rayed the complete disappearance of the growth may be anticipated. Of the carcinomas, those situated in the vagina or cervix appear to be vulnerable to radium, and if localized can in many cases be entirely removed. Recurrence after a variable interval is the rule. A preliminary curetting is often of service. Radium in such cases should not be screened excepting by such coverings as may be necessary to protect it from injury or to protect the sound tissues. Considerable doses of 3,000 or more milligramme hours are required.

The beneficial action of radium in rodent ulcers is now generally acknowledged. If uncomplicated and situated on the skin they invariably do well and a cure is expected. If they recur they may readily be removed by a second application, nor is there often any subsequent contraction in the skin. The point of importance is in the region of the orbit. Cases are benefited both in general health and in the special symptoms, even though there may be no actual reduction in the size of the affected gland. To

†Bull. de l'Acad. d. Med., 1914, lxxviii, 523.

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avoid injury to the skin small doses should be given to different areas, and the softer rays should be cut off; but where, as in hospital practice, time has to be economized, only very penetrating rays filtered through silver 1.4 mm. thick and with the radium salt maintained at a distance of 2 cms. from the skin should be used. Twenty milligrammes of pure radium bromide can, under such conditions, be applied for twelve hours without damaging the integument, and the patient can now be sent home for two to three months before making a fresh application, for the beneficial effect takes time before it is fully produced. Thus the treatment is short and simple, the dose can be accurately gauged, and the excitement to be avoided in such cases of having to face a working X-ray tube is obviated.

Radium will cause the disappearance of papillomas, nevi and recent keloids.—*The Therapeutic Gazette.*

PUBLISHER'S DEPARTMENT

In investing money there is a great tendency for a doctor to plunge into real estate or stock speculation. Sometimes these enterprises turn out successfully and profitably, but more often it means that when you hand in your cheque it is the last you see of the money, except perhaps to have calls for more money to look after the first. A dollar is pretty much like a man or a horse. It can only do a certain amount of work. If it is overworked it is liable to play out. If it does too little it is rather a luxury. With proper conditions it can do a great deal more if it is started off at the right time and in the right place than at other times. It would seem that the present is an opportune time to start any idle dollars to work for you. What with the great demand caused by the war and improving business conditions, a dollar can earn more with just as much ease as it could do at any time for a long while. Municipal and Government Debentures have so far proved the safest place to have money invested, and the yield is now from 5½ per cent. to 7½ per cent. Messrs. C. H. Burgess & Company, Traders Bank Building, Toronto, make a specialty of dealing in Municipal Bonds.

Dominion Medical Monthly
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Original Articles

THE USE OF MORPHINE AND HYOSCINE IN OBSTETRICS*

By J. A. Kinnear, M.D., Toronto.

I think it our duty to relieve our patients during labor of as much of the pain and horror of labor as is consistent with the safety of mother and babe. Chloroform has its place in obstetrics, but its uses are limited. Generally speaking, chloroform given early in labor, lessens the frequency and force of uterine contractions, prolongs the labor, and so it is not advisable to give it until the patient is in the second stage of labor, and so if our patient is to be relieved of pain in the first stage we must use something else than chloroform.

Morphine and hyoscine, if given in proper doses and not commenced until the patient is having strong pains, does not retard labor, especially the first stage of labor, and on the other hand, if the cervix is rigid, or it is a dry labor, this combination relaxes the cervix and hastens dilatation of the cervix, and so, I think that in suitable cases labor is hastened by getting the patient under the influence of these drugs.

I have been using morphine and hyoscine in my practice for some years. My first method of using morphine and hyoscine was the H.M.C. tablet (Abbott Alkaloidal Co.). I used it in this manner: If the patient was a primipara and the cervix but slightly dilated I would give hypodermically a No. 1 H.M.C. tablet. If she was a little farther advanced in labor, or I had reason to think labor would be quicker than in the former case, I would give three-quarters of an H.M.C. tablet. In one hour she should be under its influence. If she is having much pain during this hour I give a little chloroform during the pains; this hastens the action of the drugs. This keeps the patient under its influence several hours and usually long enough for the cervix to become fully dilated. Then I would give a little chloroform for

*Read at the Annual Meeting of the Ontario Medical Association.

the pains when she showed signs of regaining consciousness, and if the second stage was delayed used forceps, so that I did not allow her to become conscious after getting under the influence of the hypodermic.

During the past two years I have altered my method a little in this way. I give a No. 1 H.M.C. tablet or three-quarters of a tablet hypodermically to start, according to whether I think the labor will be slow or more rapid. She should be under its influence in an hour. During this hour if pains are severe I give a few drops of chloroform during the pains. If she is not under its influence in one hour I give hyoscine gr. 1-200 hypodermically. In my first hypodermic was morphine gr. 1-4 (with hyoscine) I would not give any more morphine, but hyoscine alone. If, however, the first hypodermic was only 3-4 of a tablet or morphine gr. 1-6, I would give now morphine gr. 1-8 with hyoscine gr. 1-200.

I think I get more effect from using the Abbott alkaloidal combination than the ordinary morphine and hyoscine tablets. She gets no more morphine than mentioned, because we consider it is the morphine and not the hyoscine that has the bad effect on the babe. This morphine produces the analgesia (lessens the pain) makes her sleepy. The hyoscine causes the amnesia (loss of memory or forgetfulness of the past or of what is going on) so that when everything is over she does not remember anything after getting under the effect of the first hypodermic. This will keep her asleep for two or three hours. She should get 1-200 gr. hyoscine every two or three hours as she shows signs of coming out from the effect of the drugs, and by these repeated doses of hyoscine she may be kept in a twilight sleep for many hours. I like Burroughs & Welcome preparation of hyoscine best, as it is supposed to be identical with scopolamine.

When under its influence she sleeps between uterine contractions; when a contraction comes on she talks irrationally as in a semi-delirium and may be restless, then quiets down when the contraction ceases until the next one. A stranger or one not accustomed to seeing a patient under its influence may think she is somewhat conscious during the pains, and can hardly understand it when the patient tells them afterwards that she felt no pains after the first hypodermic.

She should be kept in a darkened room and absolutely quiet. When she talks the nurse should not speak, as it tends to keep her awake. When she is in the second stage of labor and she shows signs of "coming out" from its influence I usually keep her under with chloroform given during uterine contractions instead of giving more hyoscine.

If the second stage is delayed, apply the forceps, giving a general anesthetic first.

I use this so-called twilight sleep in a large percentage of my cases.

This method of relieving pains is not suitable for all labors. It is most suitable when the first stage is slow, especially a dry labor, as when associated with an occipito-posterior presentation, hence most generally useful in primipara.

We should calculate on at least three hours after the first hypodermic before the birth of the child (if you have given morphia gr. 1-4) otherwise the child may be blue and require resuscitation as the respirations are impeded.

If she is a multipara and has easy and quick labors I would not advise this method, but would let her go until her pains became severe and then use chloroform for the pains.

The results are good with this method of treatment in the majority of cases. In some cases it is difficult to get them asleep and free from pain. Others again require less to induce sleep and to keep them asleep, so that the results are not always the same. The results, as far as the mother is concerned, are always good in that if not entirely satisfactory it at least lessens her pains and gives her an easier labor.

The nurse must never leave the patient, because during a uterine contraction she may be restless and fall out of bed. There are no bad effects as far as the mother is concerned.

The effects on the babe, however, are not always so good. Occasionally the babe is blue, respirations are impeded and the heart beats slowly. This condition is usually due to the baby being born too soon after the administration of the first hypodermic containing morphine, especially if it was gr. 1-4.

I have never lost a babe due to the administration of these drugs, but I must confess I have been a little anxious in a few case for a few minutes, but the babe always came around all right by resuscitation.

If there has been difficulty with the babe, the nurse should carefully watch it for a time, keeping it warm, lest it stop breathing again, although that is very unusual. Usually once the babe commences to breathe and cry it goes along all right.

It has been noticed that patients who have had this treatment are not so likely to have a lacerated cervix, as the drugs relax the cervical tissues.

I do not give pituitary extract to patients while under the influence of these drugs. The action of pituitary on the uterus often causes such strong and frequent contractions that the circulation

to the child is so impeded as to cause death of the child and I do not wish the morphine and hyoscine to be blamed for death due to pituitary. There is usually difficulty with the child when pituitary has been given to patients when under the influence of morphine and hyoscine, and the babe is sometimes still-born.

If the second stage of labor is slow, use forceps. In conclusion, my experience is that this combination should have a place in the art of obstetrics. It can be given with absolute safety to the mother, although its results are not uniform. In the majority of cases it produces a perfect twilight sleep and she does not remember anything from the time she gets under its influence until the babe is born. In some cases it would seem that she required bigger doses than I mentioned to produce this sleep, and as I have been afraid to give bigger doses, owing to its possible action on the babe, was content with simply relieving her pains to a great extent, but not getting a perfect result.

As for the baby the results are usually good, the child crying as soon as born and not requiring any resuscitation, but you cannot be positive about this until it is born. If the baby is blue, with respirations impeded, a few minutes work removing mucus from its throat, spanking and the alternate use of hot and cold water will soon start the respirations and then it goes along all right.

Do not attempt too vigorous resuscitatory measures, as you may injure the child and do more harm than good.

I do not agree with those who say it is absolutely necessary for the obstetrician to remain with the patient during this treatment providing you have a competent nurse that can carefully watch the patient and give the hypodermics under your instructions. You should occasionally see the patient so as to be able to give the necessary orders for the hypodermics and should be within call or reach by 'phone, as labor sometimes progresses quicker than you anticipated.

Dr. John Ferguson, President of the Academy of Medicine, Toronto, entertained many members at dinner in the York Club, Tuesday evening, Oct. 2nd, to meet the guest of the evening, Dr. A. J. Carlson, Chicago.

THE DEFINITE TREATMENT OF PNEUMONIA:

With a Report of the Germicidal Power of Quinine and other Cinchona Derivatives upon Pneumococcus Cultures *in vitro*.

By Solomon Solis Cohen, M.D.
Professor of Clinical Medicine in Jefferson Medical College, Philadelphia.

(*Author's Abstract.*)

Clinical.

For generations quinine has had a traditional, empirical reputation as a potent agent in the treatment of lobar and lobular pneumonia and similar maladies. Systematic employment of the drug according to a definite plan, for a period of twelve years—thus during seasons of varying meteorology and epidemic virulence—has given abundant evidence of the correctness of this tradition.

In many of the cases so treated recovery would probably have been as certain without the drug as with it; but in no case did it prevent recovery, and in a large number it averted death. Some patients in the author's service do not receive it. As a rule, however, the initial dose is given on admission, and repetition is determined by circumstances. In those cases which give no indication for repetition of the dose, recovery is practically invariable. In the severer cases—those calling for repeated doses—mortality has been greatly reduced even among alcoholics and derelicts; and the clinical picture is commonly changed from profound distress to comparative comfort, not only in cases of happy ending, but also in the fatal ones. In other words, toxemia is overcome or minimized. Thus cough is not troublesome, delirium and insomnia are much less frequent, and respiration, even when rapid, is not labored in anything like the ordinary degree. Hence the use of hypnotics, of sedatives and of oxygen, is rarely called for. The best results are observed in patients seen not later than the third day of overt symptoms—which may be the seventh or tenth day, or even later, of actual disease—and in those less than fifty years of age; but surprising recoveries are met with in late cases and old persons.

Presented by invitation at the meeting of the Ontario Medical Association, June 1st, 1916.

Two significant features of the clinical picture are to be emphasized; first, the common change from critical to gradual termination (lysis); second, the extreme rarity of cinchonism (two cases in five hundred), notwithstanding the enormous doses of quinine sometimes administered. Cinchonism, profuse sweating, or marked fall of blood-pressure following the use of quinine call for caution; perhaps for withdrawal of the drug. In no case of the author's has there been quinine amaurosis. One case of amaurosis has been reported to him by a pupil, but the trouble was transient, and the patient was saved from what seemed to be impending death.

The treatment to be outlined, however, is not specifically treatment by quinine. Quinine is used as the "big gun" in its tactics, but if a better gun is found, this could be substituted without changing the strategy of the method. It is termed the *definite treatment* of pneumonia, to distinguish it from the vagueness of expectancy on the one hand, and the exactitude of specific treatment on the other hand. It is not primarily, or chiefly germicidal. In pneumonia, after the first day, more is needed than merely to slay the microscopic Goths and Huns. We must protect the body against the poisons which they manufacture, or which may be manufactured by the enslaved or struggling tissues. We do not know as yet what the pneumonia poisons are. We merely observe their effects. The definite treatment is directed chiefly against these. Its *strategical* plan is based upon an analysis of the phenomena of crisis, and seeks to avert the profound and dangerous disturbances of that period. Into this plan a number of *tactical* measures, old and new, are incorporated, varying with the condition of the patient, the environment, the available means; and modified according to the effects produced. As gradually developed in the writer's services at the Philadelphia General Hospital and the Hospital of the Jefferson Medical College, it comprises the following features:

A. General:

1. An abundant supply of *fresh air*, preferably in the open, and with due care to preserve the warmth of the body by adequate covering, and if necessary, external heat.

2. All the essentials of *good nursing;* including *rest*, proper *diet*, and the free use of *water*, internally and externally. Copious *diuresis* is especially sought.

3. Keeping the *thorax constantly warm* by poultices during the day and a lamb's wool jacket at night. This may be preceded,

in early cases, by *counter-irritation* with a mild mustard and flour poultice.

4. A due supply of *chlorides* by saline infusion (Henry's method), alkaline-saline beverage (author's method), or the administration of a mixture of the chlorides in capsule, followed by copious drafts of water (Quimby's method).

5. Such additional measures of *elimination* (and *alkalinization*) as may be necessary.

6. *Cleansing and* (relative) *disinfection of the upper air passages* by local applications to the throat and nose (phenol-iodine-glycerine or silver preparations), or by continuous inhalation (from the perforated zinc respirator of Yeo) of volatile antiseptics, stimulating or sedative (*e.g.* ethyl iodide, creosote, chloroform, terebinthinates).

This represents a *groundwork* upon which certain *definite* medication is superimposed.

B. Special:

1. Antitoxic Agent. Quinine is given *promptly in massive and repeated doses* (for a vigorous adult, 1.6 to 1 gm. (25 to 15 grains) *circa q. iii h.*) with *progressive lessening of quantity and increase of interval,* according to effect: the drug being intermitted when the temperature (taken in the mouth) tends to remain below 102.5°F., and resumed when it tends to rise above 103°F. The temperature curve, however, is taken as an *index only,* since the treatment is not designedly antipyretic; and temperatures too low are not desirable. This medication may be kept up for one, two, or three days. There may be one dose of quinine only, or so many as fifteen. The rule is effect, not quantity—*enough and no more.* Perhaps four to five doses is a fair "average." *Quinine and urea hydrochloride* (25 to 50 per cent. recent (sterile) solution*) and *intramuscular injection* (through the *iodized skin*†) have been chosen as, on the whole, the most effective preparation and method; but other quinine salts, and administration by the mouth, are likewise employed. It is possible that other cinchona derivatives, for example *methyl-hydro-cuprein* (hydroquinine) *hydrochloride* may prove useful. The narrow interval between the toxic dose and the therapeutic dose of *ethyl-hydrocuprein* (optochin), however, inhibits the general use of this drug and its salts at present, despite their high bactericidal power. Some modification of the molecule may remove this drawback, and is a worthy objective of experiment.

*It is best made extemporaneously with boiling water, and used at a moderate heat.
†The point of puncture should be sealed with collodionized cotton.

2. Pressor Agents. *Cocaine hydrochloride, caffeine-sodio-salicylate, adrenalin, posterior-pituitary principle*—singly or in alternation or rotation—are used, *when necessary,* to maintain the line of *systolic blood-pressure* at or above the level of *pulse frequency,* as charted by Gibson's method. The *pituitary preparation* has the additional advantage of tending to prevent tympanites and dilatation of the stomach. Usually a precautionary injection of cocaine (½ grain, 0.03 gm.) or posterior-pituitary solution (1 mil.) is made with the first injection of quinine, since the latter tends to lower blood-pressure slightly. It is repeated every third hour, or as needed. In some cases so many as sixty doses have been given. In others from three to ten. In some, none at all.

3. Cardiants. *Diastolic blood-pressure* and *respiration* are charted on the same vertical (imitating Gibson's pulse-systolic pressure ratio); and an interval of less than ten points is considered a signal of danger, perhaps calling for the use of *camphor* or *digitalis* in full doses. Sometimes both agents are employed. In the majority of cases, neither of these drugs becomes necessary. Digitalis effects can be obtained more readily when the patient is under the influence of quinine than in other cases. Concerning both pressor agents and cardiants, care is, of course, necessary not to exhaust by overstimulation. One is to be "bold, but not too bold"—nor too timid. *Oxygen* is sometimes helpful in overcoming this condition; not by direct effect on the heart apparently, but indirectly through its general action.

4 Auxiliary and Symptomatic Measures. *Wet cupping, dry cupping, venesection,* and the continuous or occasional use of *oxygen, alcohol, strychnine, atropine, opium, musk, creosotal ammonium carbonate* and other drugs are reserved for *special indications,* which may or may not be present in any given case. Cases calling for *early bleeding* are not often seen, but *late blood-letting* to relieve the right heart is occasionally called for, and may prevent death by pulmonary edema, if done in time.

5. Roborant in Convalescence. *Tincture of ferric chloride* is given when the quinine is withdrawn, and continued during convalescence.

6. Specific Stimulation. In prolonged cases with extensive lesions, in certain cases of tardy defervescence, and in all cases of delayed resolution after defervescence, a *personal bacterin* (so-called autogenous vaccine) is used in progressively increased amounts, with appropriate intervals (three to seven days) between doses. Repetitions and increases of dose are largely guided by the temperature and leukocyte reactions.

The early employment of bacterins has not seemed advisable or beneficial, though in a few cases it was tried and did no harm.

7. Iodine. Observations as to the value of iodine (in colloidal and other forms) as an adjuvant in cases with extensive lesions and tardy defervescence, are as yet too few to be conclusive, though on the whole they seem to indicate a favorable action.

8. Individualization. In all features of the treatment there must be careful *adjustment* of means and measures to the *special needs* of the *particular patient* at the *moment*. One must not only know when and how to use medicines; but also watch and know when to *withhold them*. All the measures mentioned are not to be applied in every case. In most cases but one or two will be needed; but in some cases at one period or another, several may be indicated, and one must not fear to use them. Routine is inferior to discretion. Too much is worse than too little, but too little is not good. The aim is to be "just right."

Experimental.

Clinical observation has emphasized on a large scale—not merely in isolated instances—two facts in regard to the action of quinine in the pneumonias: (1) The conversion of *defervescence* from crisis to lysis; and (2) the virtual absence of *cinchonism* under repeated doses, at times enormous, of an active cinchonic. Adding to these the invariable abatement—if not suppression—of toxemic symptoms, the inference is natural that the drug acts as a *chemical antitoxic*. In other words, there seems to be *reciprocal neutralization* between the drug and something in the patient's body. Quinine overcomes the pneumonia poisons and the pneumonia poisons protect against quinine. This view is confirmed by the fact that despite the relief—sometimes wonderfully prompt and complete—to symptoms, the physical signs pursue the ordinary course, indicating that quinine does not affect in an appreciable degree either the evolution or the involution of morbid tissue changes. Rontgen ray studies and autopsies show this to be the case. Also, the occurrence of pneumococcus empyema in a certain proportion of cases and the continued findings of viable pneumococci in the blood and sputum, seem to confirm the opinion that the greatest value of the drug *does not depend upon its germicidal* action.

These views have long been before the profession, but only recently has it been possible, through a generous subvention from Mr. Samuel Fels, of Philadelphia, to undertake experimental studies to test and determine the facts with reference to the three distinctive types of pneumococci.

These experiments are still in progress, and only one phase is ready for report; namely, that concerning the germicidal action upon pneumococci of the various drugs studied. In this work the author has been so fortunate as to secure the co-operation of Dr. John A. Kolmer, of the University of Pennsylvania, in whose laboratory, and under whose direct supervision the observations have been made, with the assistance of Dr. George D. Heist.

A detailed report will be published elsewhere (*Transactions Association of American Physicians*). For the present it may be stated that the research has been carried far enough to show a distinct germicidal influence *in vitro*, of all cinchona derivatives, upon the three distinctive types of pneumococci. Certain differences appear in the relative values of the various salts of quinine, all of which are much less potent than ethyl hydrocuprein, but all of which show distinct and high germicidal activity—not only inhibiting growth, but also killing the pneumococci of all three types observed (I, II and III). Quantitative differences in the germicidal values of the different agents tested, with respect to the different types of pneumococci, have also been observed but these are much slighter than were expected.

Cross observations with other germicides (*e.g.* mercuric chloride, phenol, and arsenobenzol) show that while these exert some bactericidal effect upon pneumococci it is insignificant in comparison with that of the quinine group. Similarly, while the cinchona derivatives not only inhibit the growth of other bacteria (*e.g., Bacillus typhosus, Staphylococcus aureus*) but also destroy them, the concentration necessary is very many times greater than that fatal to pneumococci. It may thus be positively stated that the experiments show a distinctive relation (bacteriotropism) between cinchona derivatives and the three types of pneumococci. So far as *ethyl hydrocuprein* is concerned, these observations merely confirm the work of previous observers (Fränkel, Morgenroth and Levy, Moore and others) signalizing this drug as the pneumococcus-slayer *par excellence*. Clinical studies, however, do not show the same superiority of ethyl hydrocuprein over quinine in the treatment of any type of pneumonia, even when the former is reinforced by a specific serum—and this, notwithstanding the fact that such reinforcement has been shown to increase its germicidal value enormously in experimental pneumococcus infection in rabbits. (Moore.)

Moreover, ethyl hydrocuprein is much more toxic than quinine, causing in laboratory studies upon normal animals much greater central depression of blood-pressure and earlier cardiac paralysis. (Smith and Fantus.) A further fact to be noted in passing is

that in the tests made in Dr. Kolmer's laboratory by Wright's method, *the proportional decrease of germicidal activity in serum* below that shown in salt solution is much greater for ethyl hydrocuprein than for the quinine salts.

Experiments *in vivo*, and especially the more important experiments concerning the relation of quinine and allied compounds to the pneumonia poisons, are not yet sufficiently advanced to be the subject of report. So far as they have gone, however, they tend to confirm the observations *in vitro*. Meanwhile parallel studies by other investigators are invited, for confirmation, correction or extension of the results, clinical and experimental, obtained at Philadelphia.

HEALTH INSURANCE

(*U. S. Public Health Reports*).

Report of Standing Committee Adopted by the Conference of State and Territorial Health Authorities with the United States Public Health Service. Washington, D.C., May, 13, 1916.

Health insurance, as usually operated under governmental systems, provides that all employed persons in certain occupations, and all persons in other occupations earning less than a specified annual income, be entitled in case of illness to certain benefits.

Benefits.—The benefits ordinarily provided are:

(*a*) Cash payment for a limited period (usually 26 weeks in any 12 months) of a proportion of the wage, or of a fixed sum, to employees, when disabled by sickness or non-industrial accident. (Industrial accidents are provided for under workmen's compensation laws.)

(*b*) Medical benefits, which include adequate medical and surgical care, medicines, and appliances in home, hospital, sanatorium, or physician's office, to employees disabled on account of sickness or non-industrial accident during a limited period (26 weeks in any 12 months).

(*c*) Maternity benefits, which include cash payment of a small sum in case of confinements of employees or wives of employees.

(*d*) Cash payment for deaths of insured persons due to sickness or non-industrial accidents of an amount calculated to cover funeral expenses.

Funds.—The funds are usually provided by payments from employees, employers, and Government appropriations. In Ger-

many the employee pays two-thirds, employer one-third, and the Government pays for certain expenses of supervision. Under the English National Insurance Act the employee pays four-ninths, the employer three-ninths, and Parliament appropriates two-ninths. In the case of women and persons employed at certain low levels of wages the payment of employer and Parliament are increased and the proportion paid by employee is decreased.

Administration.—The administration, both central and local, is usually according to some form of representative government. In the local Government, in addition to governmental bodies created for the purpose, unions, industrial establishments, and certain societies are utilized for purposes of the local administration of the funds.

Extent of health insurance.—In foreign countries voluntary health insurance systems have been subsidized by the Governments of France, Belgium, Denmark, Sweden and Switzerland. But more significant as an evidence of the recognition of the efficacy of health insurance is the fact that compulsory systems have been established in Germany, Austria-Hungary, Norway, Great Britain, Serbia, Russia, Luxemburg, Roumania, France (for miners, seamen and railway employees), and Italy (for railway employees).

In this country we are in the first stage in health insurance. No State, municipal, or other government in any way provides for or aids health insurance. There are, however, large numbers of private systems such as mutual benefit associations and other societies which provide for health insurance; in addition to these there are various employers' benefit associations, trade union benefits, and commercial insurance with health insurance policies.

Bills providing for the establishment of governmental health-insurance systems have been introduced in the Legislatures of Massachusetts, New York and New Jersey. In California a State commission has been created for the study of social insurance.

Occupational disease insurance.—In several States occupational diseases have been included in the workmen's compensation acts and the constitutionality of these laws has been upheld by the State Supreme Courts. This shows a tendency on the part of lawmakers to apply insurance methods in provisions for sickness. Few diseases, however, are altogether due to the hazard of the occupation; in fact, at times the occupational hazard may be greatly aggravated by other conditions which cause impaired resistance in the worker. Thus the responsibility for many of the so-called "occupational" diseases is divided and the classing of them with industrial accidents is not only often impracticable,

but tends to load on the employer a responsibility which is not altogether his.

The need for health insurance.—The economic cost to every community and to the nation of preventable diseases and deaths is greatly increased by the unusual prevalence of these diseases and deaths among the unskilled and low-paid industrial workers. All available statistics, both in the United States and in foreign countries, indicate that among those of a low economic status the morbidity and mortality rates are higher than in the rest of the population.

The result of an investigation made for the Federal Commission on Industrial Relations afforded the estimate that each of the 30,000,000 workers in this country loses on the average about nine days each year on account of sickness. Placing the loss in wages at $2 a day and the cost of medical attention at $1 a day, the total loss to the wage earner of the nation would approximate three-quarters of a billion dollars annually. To this should be added the economic loss resulting from invalidity and death, and the loss to industry on account of decreased efficiency due to partial disability. To this should also be added the tremendous sums that are being spent by States, communities, municipalities and volunteer organizations for the support of charities, free clinics, hospitals, and the like. When all expenditures are taken into consideration, the estimate of $750,000,000 seems an insignificant sum, indeed.

These cold calculations of cost, however, neither depict real conditions nor represent the real attitude of the American public toward such a situation. The generous response of the American public to the necessities of sufferers in the European war is striking evidence of the willingness of the public to deal promptly and efficiently with a situation when once its significance is understood. It needs only to be brought insistently to public attention that in this country the annual loss of death and lives among our industrial workers is not far behind that caused by the greatest war in history. To inform the public of such a situation is clearly within the province of the State health agencies.

Economic factors increase health hazard.—It is not necessary to inform health officials of the character and extent of the conditions which have caused such a situation, but it is doubtful if the underlying economic factors have been adequately analyzed, especially from the standpoint of responsibility for disease-causing conditions. Without going into detailed statements, it may be said that among the more important of these economic factors are occupational hazards, irregularity of employment, unhealthful

conditions of living, the employment of women in industry under modern conditions of work, particularly of married women, and the economic disadvantage at which a considerable proportion of wageworkers and their families are placed as the result of low wages and insufficient annual income. A number of recent investigations have shown that these factors are important underlying causes of disease. Any adequate remedial programme must fix the responsibility for these conditions in order to arrive at a proper basis for efficient measures.

Responsibility for conditions causing disease.—In a general way it may be said that there are three groups which are responsible for conditions that affect the health of the wage earner—employers, employees and the community. The employer's responsibility is largely limited to places of employment and conditions of work. The public's responsibility is limited in great measure to community conditions or conditions common to all groups of citizens. To the individual wage earner is largely left the responsibility for the healthfulness of the conditions under which he and his family live, but it should not be overlooked that under present conditions he is often handicapped by the effects of his occupation and of unhealthful community environment. This is a responsibility which a considerable proportion of wage earners are financially unable to meet.

These considerations—the presence of economic factors and the financial inability of so many wage earners to maintain a healthful standard of living—clearly indicate the necessity for a health programme which will co-ordinate the efforts of all responsible groups and of the numerous health agencies at present working too independently in their respective fields.

Advantages of health insurance.—The experience of foreign countries and a study of the situation in this country have shown that such a co-ordination of effort may be possible in a governmental system of health insurance if properly adapted to national or State governments. By providing for the insurance of all workers, adequate relief will be afforded to even the lowest paid worker.

The joint contribution of all employers, employees and the community to the support of a health insurance fund will give to each group a financial incentive to lessen the cost by the prevention of disease, since a definite money valuation would be fixed upon each day of sickness.

By providing medical service, with a continuance of a substantial portion of his income during sickness, the wage earner's family would not be rendered destitute when he stopped work on

account of sickness, and he himself could receive prompt treatment and not be compelled to continue at work until his health was seriously impaired.

Maternity benefits are calculated to conserve the health of the mothers and lower the infant mortality rate.

The joint provision and control of the fund by employers, employees, and the community will prevent any taint of charity or paternalism, afford a basis on which capital and labor can work together for a common end, and stimulate a spirit of co-operation in the movement for improving the welfare of the wage-working population in every industrial community. Just as the workmen's compensation laws have brought about the nation-wide "safety-first" campaign, so may we expect from the enactment of health insurance laws a movement for better health that will be intelligent as well as popular.

Relation to Medical Profession and Health Agencies.

As stated above, the local administration of health insurance funds is usually left to local boards created for this purpose, or to trade unions, industrial establishments, or societies which have been approved by the central governing board or commission. The German act has left the administration of the medical benefits to these local bodies, and this has resulted at times in restricting the insured persons' choice of physicians to a limited number of contract doctors employed by these local agencies, and thus caused so much friction as to result in a "doctors' strike." The English act, in the effort to remedy this defect, permitted free choice of physicians registered on the panels of the funds, but did not place proper restrictions upon the signing of certificates admitting insured persons to benefits. The result was that the physicians were entirely too complaisant in signing certificates and the funds were subjected to improper drain.

In the bill for health insurance that has been introduced in the several State Legislatures the German plan has been followed, the matter of providing medical benefits has been left in the hands of the local bodies, and no provision has been made for correlating the system with existing health agencies. These are serious objections, since without such provisions a health insurance law will have little value as a preventive measure, although it may meet with the approval of those who advocate it as a relief measure.

There must be a close connection of the administration of any health insurance system with the health agencies of the country and with the medical profession. It is believed that this can be done in three ways: (1) By providing efficient staffs of medical

officers in the Federal and State health departments to carry into effect the regulations issued by the central governing boards or commissions; (2) by providing a fair and sufficient incentive for the active co-operation of the medical profession; and (3) by providing for a close co-operation of the health insurance system with State, municipal and local health departments and boards.

Corps of full-time medical officers.—In view of the experience in both Europe and America, it would seem best to place the administration of the medical benefits directly under governmental agencies and to insert a provision that no cash benefits be paid, except on the certificate of medical officers of the national and State health departments acting as medical referees under the regulations of the central governing board or commission. Such medical officers should be selected according to civil service methods. Since these officers are the representatives of the health departments in the funds, their selection and appointment should also be based upon their knowledge of preventive as well as of clinical medicine. After a probationary period of service satisfactory to the health administration, they should be given permanent appointments, subject to removal only for inefficiency or immoral conduct. One of their duties should be to examine each disabled beneficiary and keep themselves informed as to the progress of his recovery. It is needless to say that the referees should not be permitted to engage in private practice.

Free choice of registered physicians.—With such a check on the payment of cash benefits, the medical and surgical treatment provided for beneficiaries could safely be left to the physician of the patient's choice, and payment made on a capitation basis regardless of whether the patient was sick or well, after the manner of the English National Insurance Act. This method of selection and payment of physicians for the medical and surgical relief would offer every incentive to them to keep their patients well and to endeavor to please by rendering their most efficient service.

Hospital and dispensary treatment.—In addition, free choice should be allowed to those who prefer institutional treatment by a selected staff, when available; and to this end the local and federated governing bodies might even provide dispensary and hospital units, each such unit to include a staff of physicians, surgeons, oculists, dentists and other specialists, and a staff of visiting and bedside nurses.

Health insurance a measure for prevention of disease.—The greatest value of such a system of administration of the medical benefits would be in the organized corps of medical officers and of attending physicians registered on the panel and in the oppor-

tunity it would offer for preventing disease among the insured persons and their families. It would be through the corps of full-time medical officers of the health department acting as referees, that the health insurance system would be linked up with other health agencies. It is not necessary to relate here the advantages which would arise from the visits of such specially trained men into the homes of all sick persons. Nor is it necessary to tell how these officers acting as health officers could further lower the sick rate. The objection could not be raised that such a corps would be too expensive. It would not require more than one such medical officer to every 4,000 insured persons, and at that rate they could more than save their salaries by relieving insurance funds from paying unjust claims. Furthermore, while an estimate cannot be made of the amount to be saved by their efforts in the way of lowering the sick rate, it is safe to say that it would amount to many times more than the sum of their salaries.

Health officials should realize now the necessity for correlating the administration of the medical benefits of any proposed health insurance system with existing health agencies. If health departments are at present inefficient, they should be strengthened and made adequate to meet all demands.

To enact a health insurance law simply as a relief measure without adequate preventive features would be a serious mistake, but with a comprehensive plan for disease prevention there is every reason to believe that it would prove to be a measure of extraordinary value in improving the health and efficiency of the wage-earning population.

Recommendations.

The following fundamental provisions should be embodied in any health-insurance measure proposed for national or State governments:

1. *Insured persons.*—Every person engaged in a gainful occupation and earning less than a specified annual income, say $1,000, should be entitled to the benefits provided under the law. Every person earning more than the specified annual income should be allowed to qualify for the same benefits or greater benefits according to annual income.

2. *Funds.*—To be provided jointly by contributions from employees and employers; the Government to appropriate for the expenses of supervision and administration.

3. *Benefits.*—The following benefits should be provided:

(*a*) *Cash benefits.*—Weekly cash payments in case of disability due to sickness, non-industrial accident, or to child-bear-

ing by the beneficiary, for a period not to exceed 26 weeks in any one 12-month period.

(*b*) *Death benefits.*—Cash payment (for funeral expenses) to legal heirs for death due to sickness or non-industrial accident.

(*c*) *Medical benefits.*—To include adequate medical and surgical care, medicines and appliances in home, hospital, sanatorium, dispensary, or physician's office, beginning with the first day of disability, whether due to sickness, non-industrial accident, or to child-bearing by the beneficiary or the wife of the beneficiary, and limited to a period of 26 weeks in one 12-month period.

4. *Administration.*—All matters of promulgation of rules and regulations and appeals should be vested in a national or State commission created for this purpose. All matters of local administration should be vested in local boards of directors, federated according to districts, subject to supervision by the central authorities, and rules and regulations promulgated by the commission.

The commission and all local and federated boards should be composed of persons representing the contributors to the funds. The number representing employees and employers should be in the same ratio as their respective contributions.

Provision should be made for free choice of any physician registered on the local panel, and provision might be made also for adequate institutional care for those who prefer this method of medical benefits.

A corps of full-time medical officers should be provided within the national or State health service to have supervision of all hospital and dispensary relief; to examine all insured persons claiming to be disabled, and issue certificates in accordance with the regulations promulgated by the commission; to advise the administrative authorities and all contributors to the funds as to the best measures for the relief and prevention of sickness; to advise with the physicians attending sick members as to measures which will shorten the periods of disability; and to perform such other duties as may be fixed by regulations.

The deaths of the following Canadian physicians have recently been announced: Dr. R. P. Campbell, Montreal, somewhere in France; Dr. Harry Goodsir MacKid, Calgary, Alberta—a past President of the Canadian Medical Association; Dr. George Wilkins, Montreal; Dr. John C. Mott, St. John, N.B.; Dr. Charles W. Hewson, Amherst, N.S.; Dr. E. H. Kertland, Toronto; Dr. I. R. Walker, Ingersoll, Ont.; Dr. Ernest William McLaughlin, Toronto.

Dominion Medical Monthly

And Ontario Medical Journal

EDITED BY

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GEORGE ELLIOTT, MANAGING EDITOR.

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COMMENT FROM MONTH TO MONTH

Should Terminal Disinfection be Abolished? Sun light and fresh air have come to be considered the very best disinfectants we possess. These are being used more and more by medical officers of health in the disinfection of rooms after being inhabited by patients with infectious disease.

In October, 1914, the Department of Health, New York City, discontinued fumigation as a routine method after diphtheria, scarlet fever and measles. This was inaugurated first in the boroughs of the Bronx, Queen's and Richmond. It has not been followed by any increased prevalence of these diseases since that date. On the first of January, 1915, it was discontinued in the borough of Manhattan, but continued in Brooklyn for test and control.

The manner of their terminal disinfection took the form of thorough cleansing, fresh air and sunlight, and particularly renovation (repainting and repapering) when necessary. This has resulted in considerable saving to the Department of Health,

and there has been no increase in the prevalence of the above diseases. Terminal disinfection is now to be discontinued in Brooklyn.

Just how far this advance has proceeded in Canada we are not in a position to say. Dr. H. W. Hill, M.O.H., London, Ontario, contributes a short article to the symposium on the subject in *The Medical Times*, New York. He states that since he assumed the duties of medical officer of health of London, terminal gaseous disinfection has been abandoned for all diseases, except for tuberculosis. This is carried out rigidly on the death or removal of a patient with that disease. Diphtheria has practically disappeared in London, and there has been only an occasional case of scarlet fever.

These measures may be all right, we are not denying them, but the public is scarcely educated to the point of abandoning all terminal disinfection in all communicable diseases. It appears it has been sufficiently well demonstrated that the old gaseous disinfection is antiquated and of no particular value, and that renovation and the full exposure to sunlight and fresh air of the rooms is equally as good, if not better, and the right method. Still, in such diseases as tuberculosis and smallpox, medical officers of health would get a terrible jolt from the newspapers and public, if their new methods were not sufficiently substantiated before being generally and continuously adopted.

Infection in all the communicable diseases from person to person is most likely closely associated with close contact, and fomites are not universally considered of as much weight as formerly. It is wonderful, though, what a deep hold infection has upon the mind of the average individual. His idea of the mode of communication is very often quite ludicrous, and these notions will be harbored, and believed in, even although the medical officer, or the family physician, scouts and scoffs at the fears and the follies of parents and relatives. After all it is safer that thorough and vigilant disinfection be practised at the bedside, and that cleanliness be the universal law for all. If these two can be assured the problem simplifies itself.

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ANNUAL MEETING OF THE COLLEGE OF PHYSICIANS AND SURGEONS

The annual meeting of the Council of the College of Physicians and Surgeons of Ontario opened on Tuesday, June 27th, ult.

The new members taking their seats were Dr. F. R. Eccles, of London, and Dr. J. C. Connell, of Kingston.

The officers elected for the Council year, 1916-1917 were: President, Dr. Edmund E. King, Toronto; Vice-President, Dr. W. E. Crain, Crysler, Ont.; Registrar-Treasurer, Dr. H. Wilberforce Aikins, Toronto; Solicitor, H. S. Osler, K.C., Toronto; Auditor, James F. Lawson, Toronto; Stenographer, George Angus, Toronto; Prosecutor, John Fyfe, Toronto.

The report of the Board of Examiners showed that, in the spring examinations of 1916, there were in all one hundred and twenty-nine candidates, of whom eighty-eight passed, and forty-one failed.

Dr. W. Spankie, of Wolfe Island, and Dr. H. S. Griffin, of Hamilton, were appointed, as representatives of the College, for the coming four years, on the Medical Council of Canada.

Appeals, emanating from twenty-four candidates, who had failed at the recent examinations, were considered. Of these, two only were entertained.

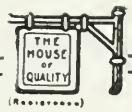
The question of the proper handling of drug habitués was referred to the incoming Executive Committee, with permission to bring it before the Royal Commission for consideration, if thought advisable.

The following motion, bearing upon the attitude which, in the judgment of the Council, should be assumed by the members of the College, in the matter of the carrying out of the provisions of the Ontario Temperance Act, was passed:—

"That, inasmuch as the Government has imposed upon the medical profession the working out of the Ontario Temperance Act, according to Clause 51 of the Act, this Council desires to impress upon the profession at large the necessity of adhering to the Act with dignity and decorum, and that the Registrar be instructed to provide the members of the College with a copy of the clauses and this resolution."

The Council adopted the report of the Special Committee, appointed to consider the advisability of establishing a system of licensed midwives in Ontario. The report read:—

"Conditions in the province at this time do not demand a system of licensed midwives."



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The Council decided to request the Militia Council to provide that Canadian Army Medical Corps officers should "have rank and compensation more in keeping with the services rendered."

The report of the Education Committee, as adopted by the Council, provides, *inter alia*:

1. That the question of uniform matriculation standards be taken up when the Canada Medical Council has issued its report on the same.
2. That the fifth year of the medical course shall be "wholly and exclusively academic."
3. That graduates in medicine of such foreign universities as shall enjoy recognition under this College will not be required hereafter to attend a full winter session of lectures and clinics in a Canadian medical college before offering themselves for the College examinations.
4. The Council acceded to the request preferred by Queen's University and the University of Toronto, that the present summer session shall be regarded as a full, academic year, the College to hold its usual fall examination at the close of the session.

The same examiners as had conducted the spring examinations were reappointed.

A Special Committee was appointed to act jointly with similar committees of the Ontario Medical Association and the Academy of Medicine to approach the Government, with a request for such amendments to the Workmen's Compensation Act as would, in the operation of the same, provide for reasonable compensation for services rendered by members of the profession in cases coming under the operation of the Act.

The Council adjourned on Friday, June 30th.

Dr. Walter McKeown, Toronto, has sold his residence, No. 7 College Street, and, it is rumored, may reside permanently in England. His son, "Woody," recently received two distinctions, the hand of a Belgian bride and the Military Cross for gallantry on the field.

A new Reception Hospital has been opened in connection with the Hospital for the Insane at Brockville, presided over by Dr. J. C. Mitchell. At the opening in August there was held a meeting of the Leeds and Grenville Medical Society, of which Dr. Mitchell is president, when Dr. J. L. Chabot, Ottawa, was present and gave an address.

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News Items

Dr. William Goldie, Toronto, is away on a long vacation.

Professors J. J. Mackenzie and B. P. Watson, University of Toronto, are returning from Saloniki.

Dr. Frawley, Toronto, announces he will hereafter devote his practice to obstetrics and gynecology.

Colonel Fred. Marlow, Toronto, has been appointed a special inspector of military hospitals for Canada.

Captain H. C. P. Hazelwood, Toronto, has been appointed medical officer of the 204th Beaver Battalion.

Dr. DeLoss E. Bell, Brockville, Ont., has been appointed physician to the Workmen's Compensation Board of Ontario.

The Sir Oliver Mowat Hospital for Tuberculosis, Kingston, Ont., has been leased by the Canadian Hospitals Commission for returned soldiers with tuberculosis.

Dr. F. S. Vrooman, of the Brockville Hospital for the Insane, has been appointed superintendent of the new Military Hospital to be established at Cobourg, Ontario.

Dr. Fred. Moore, Toronto, has been in New York, taking special instruction in cystoscopy, and will devote special attention to that branch of surgery in the future.

By the death of Dr. T. G. Brodie, Professor of Physiological Chemistry in the University of Toronto, the University has lost an able and efficient teacher and scientist.

Dr. Harry McPhedran, Toronto, is coming home for two months' furlough. Captain McPhedran has been appointed to the Medical Board under Colonel Walter McKeown, Toronto.

To Drs. Albert A. Macdonald and H. T. Machell, Toronto, the sympathy of the entire profession will go out on the announcement of the deaths of their brave and gallant sons on the field of battle.

Dr. N. E. MacKay, Halifax, N.S., has been elected President of the Provincial Medical Board of Nova Scotia, in succession to Dr. John Stewart, who is at the front with Dalhousie Base Hospital.

The Rocky Mountain Sanatorium, near Frank, Alberta, has been acquired by the Canadian Hospitals Commission, and will be used for the treatment of tuberculous soldiers belonging to the Western Provinces.

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Publisher's Department

No Shortage of Pepto-Mangan (Gude).—It affords us pleasure to call special attention to the advertisement of Pepto-Mangan in this issue.

It will be noted that plentiful supplies of this standard hematinic are again available, after a brief shortage of stock, due to unexpected delays in the fitting up of a new and thoroughly modern laboratory for its manufacture in New York City.

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Half a Century's Progress.—October, 1916, points an epoch in the history of Parke, Davis & Co. The house was founded in 1866—just fifty years ago this month—largely upon the optimism of three or four determined men, backed by a capital that would seem insignificant to-day. There was nothing in its unpretentious origin to foretell the success of after years. And by success we mean not merely material prosperity, but also that broader and more enduring success that is based upon good-will and confidence.

Manufacturing pharmacy was then a crude, imperfect art. Bacteriology, pharmacology and biological pharmacy were as yet unborn. There were no curative sera or vaccines in those days. Prophylaxis was in its infancy. Standardization was unknown.

Fifty years have wrought marvellous changes in means and methods for the treatment of human ills. The materia medica has been amplified beyond the dreams of the earlier investigators. Knowledge of pathology has immensely broadened. The empiricism of the past has given way to rational therapeutics, and medicine is taking its rightful place among the sciences.

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the next fifty years bring forward? Time alone can write the answer. Ours is a progressive age. The science of medicine has not reached its highest development. The physician's armamentarium will be further enlarged and fortified. New remedial agents will come into being. Many existing products will be improved. And with the fulfilment of these conditions, Parke, Davis & Co. (if we may judge the future by the past) are certain to be identified.

It is a question whether it is wise for a physician to lend money and take a mortgage in the territory in which he practises. It so often happens that when a man needs money he is very grateful to any one that makes the loan, but when the time for paying comes round two or three times he forgets, and if it ever happens that in order to protect himself the lender is compelled to foreclose he is liable to get a reputation of being hard. It is, however, not necessary to invest in mortgages. A much more satisfactory investment could be obtained by lending to whole Municipalities (not only a little piece of it, as represented by a mortgage) by purchasing their debentures. It is then not necessary to spend time in ascertaining if the insurance is paid or taxes remitted, or if the owner is spoiling the farm or property. All you have to do is once or twice a year cut off the coupons representing the interest or principal and deposit it in the bank, in the same manner as you do a cheque.

It would be worth while to secure further particulars from C. H. Burgess & Company, Traders Bank Building, Toronto, Ontario, who has Municipal Debentures for sale yielding an interest return of from 5½ to 7 per cent.

Dr. George D. Porter, Toronto, was re-elected secretary of the Canadian Association for the Prevention of Tuberculosis at the annual meeting in Quebec City; and Senator J. W. Daniel, M.D., St. John, N.B., was re-elected president.

Surgeon-General Guy Carleton Jones, C.M.G., Director-General of the Canadian Army Medical Service, has had conferred on him the insignia of an officer of the Legion of Honor by the President of France in recognition of valuable services.

Dr. Edward S. Hasell, superintendent of the Royal Jubilee Hospital, Victoria, B.C., since 1907, has been appointed chief medical superintendent of Military District No. 11, and also appointed medical superintendent of the military hospitals of British Columbia.

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And Ontario Medical Journal
Vol. XLVII. TORONTO, NOVEMBER, 1916 No. 5

Original Articles

PRESIDENT'S ADDRESS BEFORE THE TORONTO ACADEMY OF MEDICINE

By John Ferguson, M.A., M.D.

On the receipt of the cablegram from Col. Herbert A. Bruce, informing the secretary of the Academy that, owing to his military medical duties abroad demanding a prolonged absence from Toronto, he felt it to be his duty to resign the office of president, to which he was elected last spring, the Council placed upon me the responsibilities of the highest office in the gift of the Fellows. When I look back over the list of the distinguished gentlemen who have preceded me in the presidential chair, and recall their many gifts and talents of head and heart, and their brilliancy of expression, it will at once become apparent with what trepidations I appear before you on this occasion. This difficulty is brought to the point of positive discouragement when I think of what a wise and genial ruler my immediate predecessor, Dr. W. H. B. Aikins, on all occasions proved himself to be. You will, I know, be lenient in your criticisms; for I have not had the time, and I fear I have not the ability, to prepare a message worthy of the audience I see before me this evening. But I am here at your command, and, as Locksley said to Prince John, "Nevertheless, I will obey your pleasure," and, like Hubert in his turn, "A man can but do his best." Compared with the communication that Col. Bruce could have given us from the stirring events in Europe, anything coming from me must prove tame, indeed; and cannot but be regarded as *longo intervallo* from that to which you have been looking forward.

The Toronto Academy of Medicine is now entering upon its tenth session, and, although still quite young, has attained great strength, has struck its roots deep into a fertile soil, has reared its branches aloft to the gaze of all, and is yielding splendid fruitage in its social and scientific achievements. When the

Academy of Medicine speaks out on any public question its voice has weight, and is heard over a far-flung area, like that of Stentor. It is becoming more and more apparent that the objects of the Academy are not selfish or for class privileges, but truly altruistic and for the good of the public. This is well borne out by the origin of the Academy. It is now a little over nine years since the Ontario Library Association, the Toronto Medical Society, the Toronto Clinical Society and the Toronto Pathological Society realized the true meaning of the words of Longfellow that "All your strength is in your union." These various societies were doing excellent work; but all now recognize what a great step onwards was made when their union was effected under one name and for one great purpose—the creation of an *esprit de corps* in the medical profession which shall make *noblesse oblige* the supreme law. In all things we follow the injunction of Shakespeare, "Do as adversaries do in law, strive mightily, but eat and drink as friends." It is in this way that we hope to bring out the best that is in each of us; for we accept the truth of Browning's teaching in his Paracelsus that "Progress is the law of life." We have all been working with the fullest conviction that "outworn ideals are fading fast away," and that "new occasions teach new duties"; and so we have inscribed on our banner the words of Longfellow, "Act, act in the living present," in order that we may "build firmly on a wide and ample base."

The greatest of all incentives for a people are the noble deeds of the past and high ambitions for the future. As members of the medical profession we have a splendid history to look back upon, while a wide future of usefulness is opening up before us. As to our achievements, without being boastful, we can sing in the words of Milton that "Peace hath her victories no less renowned than war." Religious sects have many bitter persecutions to explain away, and nations, all down the vista of history, have waged wars of the most savage nature against each other; but nowhere in the past have acts of pillage, persecution or murder been charged against the medical profession. It has ever stood for the rights of man, for his social advancement, for his physical welfare, and for his intellectual elevation. The medical profession has ever been feeding the serpent of the Temple of Hygeia that it might remain appeased and spare the people. To all races and creeds we have ever extended the olive branch and taken with us the white-winged dove of goodwill. Mythically descended from Apollo, the sun god, through Æsculapius, the medical profession has always been, like that ancient deity, afford-

ing help and warding off evil. No wonder it is then that so great a writer as Carlyle could exclaim, "To the mitred bishop, nay even to the highest prince in the land, I might not make obeisance; but to the physician making his visit in the dark hours of the night, ofttimes without hope of reward, *en ecce!* to him I would doff my hat."

For more than two years national and international conditions in Europe have been undergoing transformation in the melting pot. Just as it was true in the palmy days of Julius Cæsar that all roads led to Rome, so is it true that all the evidences and arguments as to the causes of the present war lead to Berlin. There are now fourteen independent countries involved in this horrible war. These countries represent a total population of about nine hundred millions, or considerably more than half of the world's humanity. The most reliable estimates tell us that these fourteen countries have actually engaged in the war, or in course of training for it, not less than thirty million men. The death loss up to date lies somewhere between four and five millions, and we are told that much of the most violent fighting has yet to be recorded. We are told that in the over-run areas of Poland—and there is not much of it that has not been over-run—there is scarcely to be found a child under seven years of age: for all have perished from lack of food, shelter and raiment. Add to this the buteheries of Belgian and Serbian women and children, and the forcible abduction of French women, and still the ghastly tale is only beginning to be told! Could Canada, as part of the British Empire, have remained inactive as an interested bystander only? I think not. It is as true of this country as it was of ancient Rome in a great crisis:

> My voice is still for war.
> Gods! can a Roman senate long debate
> Which of the two to choose, slavery or death!

And so our brave Canadian boys crossed the sea to do battle on the fields of France. In Shakespeare's King John, we find words that, though referring to an event now seven hundred years ago, can most fittingly be applied to our own men:

> Be thou as lightning in the eyes of France;
> For ere thou canst report I will be there,
> The thunder of my cannon shall be heard;
> So hence! be thou the trumpet of our wrath.

On many a hard-fought field, demanding the maximum of courage and endurance, the officers and men of the Canadian ex-

peditionary force lived up to the Scriptural injunction—quit you like men, be strong. There was no eye that faltered, there was no heart that weakened, there was no muscle that trembled. Each one of our men could speak of himself in the words of Scott:

> I have seen war's lightning flashing,
> Seen the claymore with bayonet clashing,
> Seen through red blood the war-horse dashing,
> And scorned, amid the reeling strife,
> To yield one step for death or life.

To this great struggle in behalf of liberty against brute force, and to the sufferings caused by it, the Fellows of the Academy have not proven indifferent. They have given freely of their best in professional, sympathetic and material aids. In the early days of the war the Academy donated one thousand dollars to the Patriotic Fund raised for the benefit of the wives and children of those enlisting. From that date also 195 of the Fellows have been giving their professional services, free of charge, to soldiers' families. The amount of attendance thus rendered has been very great, and has been highly appreciated. The Council of the Academy has granted the free use of one of its large rooms to an association of ladies, who meet in it almost daily and are engaged in the making up of supplies for the many Canadian hospitals overseas. Those of us who have seen these ladies at their work of love know how much they appreciate the privilege of meeting in the commodious room placed at their disposal. But the contributions of the Academy do not end here. No less than 88 Fellows have taken part in some capacity in the Army Medical Service. Some are in this country, some are attached to hospitals or regiments in Britain, some are doing their part in France, while others are at Saloniki with the University of Toronto Base Hospital. All of these have made great sacrifices for their King and country. One has already lost his life, and several have suffered impairment of health. To such of our Fellows as have suffered in health or sustained bereavements on account of the war we tender our fullest sympathy. Six of our members have lost a son at the battlefront. Ryerson, Primrose, Sneath, Macdonald, Nevitt and Machell did honor to their country, to the cause for which they fought, and to their parents. Each of them lived true to the words of Hector in "Troilus and Cressida":

> Life every man holds dear; but the brave man
> Holds honor far more precious dear than life.

They were of the genuine Spartan blood that felt they must bring back their swords with them victorious blades, or fall on the battlefield. *Libertas optima serum*, liberty is the best of things, has long been recognized by the world as a truth; but the more precious the jewel, the greater the price that must be paid for it, and history tells us that blood is the price that must be paid for this jewel.

But the Fellows have also contributed personally of their means. Already they have given $2,300 for the purchase of supplies for the overseas Canadian hospitals. They have given $1,196 in aid of the Belgian professors, and medical and surgical supplies and instruments to the value of over $4,000 have been sent through the Red Cross to Belgian doctors. We have also contributed to the Patriotic Fund the handsome amount of at least $5,000. To the Daughters of the Empire hospital fund, the Red Cross fund, and the equipment of the University of Toronto Base Hospital we have also been liberal givers, but there are no means of ascertaining the amounts. A grand total of over $13,000. In connection with these efforts the services of Drs. H. B. Anderson, N. A. Powell and E. E. King cannot be too highly praised. They have truly lived up to the last mandate of Lord Nelson. "England expects every man to do his duty." Such performances find expression in Bailey's words:

> We live in deeds, not years; in thoughts, not breaths;
> In feelings, not in figures on a dial.

Recalling our thoughts now from these war matters to local and domestic affairs, we find that the Academy has accomplished much in the few years that have elapsed since its organization. According to latest estimates, the value of the Academy's investments, cash on hand, library, and realty is creeping close up to $50,000. The annual income from the fellowship fees and interest on investments is now about $5,000 a year. There is in the main building and in the stackhouse an accumulation of over 10,000 volumes, many of which are quite rare. In the various classes of Fellowship there are at present 425 resident, 40 non-resident, 5 life, 5 honorary, and one corresponding. So far there are none in the benefactor class. A strenuous effort should be made by all to add to the lists of resident and non-resident Fellows. The fees so obtained would be a matter of consideration; but far more valuable would be the further strength that comes from growth in numbers. It is to be hoped that the day is not far distant when we shall be able to inscribe on our lists some names as benefactors.

Contrast these facts with the time in the history of the library when Dr. H. J. Hamilton, one of our past-presidents of the Academy, called upon a number of us for a small donation that urgent needs might be met and the work of the library be carried on. But "Hope, like the gleaming taper's light," led us on.

The grim reaper, Death, has claimed his quota of our Fellows. Dr. H. C. Burritt, a life Fellow, was full of years and honors, and had occupied a number of important offices as an expression of the goodwill of his professional brethren. Dr. Bruce Smith was one of our active Fellows, and always welcome at our social and scientific gatherings. He gave many of his most useful years to the bettering of the conditions in the asylums, hospitals, orphanages, charities and prisons of this province. His annual reports reveal what a keen interest he took in these institutions, and what a wide and hopeful view he held for the future. To his work the profession and the public owe much. And then his presence among us was like a benediction. Dr. Norman Yellowlees was but on the threshold of a promising career. He took a lively interest in the Academy's affairs, and offered his services to the army, going with the University of Toronto Base Hospital to Saloniki, where he met death by accidental drowning. To know Dr. Yellowlees was to admire his many good qualities. Still another able practitioner and upright associate was taken from our ranks by the death of Dr. Bartholomew E. McKenzie. Dr. B. E. McKenzie was favorably known throughout the country, and, indeed, was widely known in the United States as a specialist in the field of orthopedic surgery. Often have we heard his voice in clear and forceful tones enunciating his views on the topics of debate. The deaths of these Fellows bring to our minds the words of Horace: *Pallida mors aequa pulsat pede pauperum tabernas regnmque turres;* pale death comes with impartial footsteps to the homes of all. Emerson tells us that "the death of a dear friend, wife, brother, lover, which seemed nothing but privation, somewhat later assumes the aspect of a guide or genius to stimulate us in our way of life." We may well associate with the memories of these deceased Fellows the words of Oliver Wendell Holmes:

> Take them, O Father, in immortal trust!
> Ashes to ashes, dust to kindred dust,
> Till the last angel rolls the stone away,
> And a new morn brings eternal day!

It is always a pleasure to learn of our Fellows receiving recognition for their services, and having honors conferred upon

them. In this connection we unite in extending to Dr. E. E. King our felicitations on his election to the presidency of the Council of the College of Physicians and Surgeons of Ontario. It is an honor that can come to but few, and we feel its dignity will lose nothing for having passed through his hands. It was also a matter of much pleasure to all of us to learn that the excellent services of Col. J. T. Fotheringham had met with the King's favor and that he had been rewarded with a C.M.G. This distinction Col. Fotheringham's two years of arduous performance of duty has worthily won. Quite recently Dr. H. A. Bruce has been made a full colonel, and has been given important duties to discharge in connection with Canadian hospitals in Britain, France, and in the Mediterranean region. Drs. Perry Goldsmith, H. E. Clutterbuck, Graham Chambers and Walter McKeown have also earned various promotions, and Col. J. A. Roberts has been several times mentioned in despatches. To all these we extend our best thanks for their devotion to the country's needs.

By a process of mind-reading I have taken a vote of the Fellows and have much pleasure in declaring it unanimously carried that I convey to Professors B. P. Watson, J. J. McKenzie, R. D. Rudolf and A. Primrose a hearty welcome back to our midst once more. There is no doubt but that, during their sojourn abroad, like the Earl of Westmoreland long ago, they learned enough of " the harsh and boisterous tongue of war."

And, now, as to the future, permit a few words. In the first place, every Fellow should make it a part of his regular creed to attend our meetings. The surest way to assist one's self is to assist others. The Council is greatly encouraged by good attendances at the stated and section meetings. The Fellows are also benefited and their interest quickened.

In the next place, every Fellow should become a recruiting officer for the Academy, and do what he can to induce his medical friends to join our ranks. Every medical practitioner in good standing in this city should take his place with us.

Then, further, we should be on the alert for donations of books and money. Every one of us has some influence if he will only use it. We have a library of 7,496 accessioned volumes, about 1,500 volumes in preparation for accessioning, and about 1,200 duplicate volumes to exchange for others as opportunity arises; but one of 50,000 volumes would not be too large. In addition to our books, there are over two hundred and fifty current journals and transactions on file in the reading room. Many of our Fellows allow books to be lost that should find a place on our

shelves. Fellows might also remember in their wills the Academy, and make a favorable direction with regard to their books; and, perhaps, also in the matter of some of their money. With nearly five hundred Fellows we should be able to induce some of our generous citizens to place the Academy on the list of their beneficiaries. If you do not cast out your hook and line you will catch no fish. Let us become disciples of Isaak Walton. There is fruit for the pulling and grain for the garnering. In Bailey's "Festus" we are told "We live not to ourselves, our work is life."

There is another topic on which I crave your indulgence for a few moments. The signs of the times point to some forthcoming medical legislation. It will be necessary for the Academy of Medicine to take its place on the watch-towers to guard the rights of the people. Several cults, claiming the privilege to treat the sick, have appeared before the commissioner appointed by the Ontario Government. The most important of these are the osteopaths, the chiropractors, the optometrists and the Christian scientists. These cults will no doubt seek some short cut to secure the legal right to treat and charge. The position which has always been held by the medical profession is that, if anyone wishes to be a dermatologist, an ophthalmologist, a neurologist, a pediatrist, an obstetrician, or a surgeon of a special sort, he must first pursue a full medical course of studies, and obtain the license of the College of Physicians and Surgeons. It has always been true that this is the irreducible minimum of training and learning that must be enforced before anyone secures the right to practise any specialty or system of treatment.

Dr. John Green, professor of ophthalmology in Washington University, St. Louis, defines optometry thus: "Optometry signified, in its older use, the measurement of the range of vision. With the attainment of broader and more accurate knowledge of the physiology and pathology of vision, quantitative methods have been applied to the investigation of other visual functions, and we now recognize, as parts of one general subject, the measurement (1) of the acuteness of the visual perception of form, (2) of the perception of light, (3) of the perception of colors, (4) of the extent and limitations of visual field, (5) of the accommodative and refractive states of the eye, and (6) of the position and movements of the eyeballs." Here one has clearly set forth part of the routine practice of the ophthalmologist. It would be just as logical to give a person a course of instruction on the skin and license him to practice dermatology, and call himself

a D.D of a sort, namely Doctor of Dermatology. This process could be carried to the *reductio ad absurdum* of having doctors graduated, after a few weeks' training, to treat each organ of the body separately.

The next false claimant is chiropraxy. Nelson's encyclopedia defines it thus: "Chiropractic, a system of therapeutic treatment for various diseases, through the adjusting of articulations of the human body, particularly those of the spine, with the object of relieving pressure or tension on nerve filaments. The operations are performed with the hands, no drugs being administered." Here we have a very crude form of manipulative treatment based on a wholly unscientific foundation. It is absolutely impossible to relieve any pressure that may be on a nerve by such manipulations. Any relief that may sometimes follow can only be experienced as the result of suggestion. A person may think he has some displacement of the spine when he has not. Much better would it be at once to graduate mesmerists, Braidists, Freudists and hypnotists and set them loose on a gullible public to perform all sorts of pranks along the line of suggestions, charging for these impostures under the guise that they constitute a new system of treatment.

Osteopathy is the next pseudo-system seeking recognition. Osteopathy was founded by Dr. Andrew Taylor Still in 1874. Dr. Still was an army surgeon during the Civil War. This means that he must have graduated before 1861, when the war broke out. From this one can readily imagine he would not be burdened with too much scientific knowledge. This is fully borne out by his four main laws of disease and treatment. These are:

1. "That a disturbed artery marks the beginning to an hour and minute when disease begins to sow its seeds of destruction in the human body. The rule of the artery must be absolute, universal and unobstructed or disease will be the result."

2. "All the remedies necessary to health exist in the human body. They can be administered by adjusting the body in such condition that the remedies may naturally associate themselves together."

3. "The cause can be found and does exist in the limited and excited action of the nerves only, which control the fluids of all parts of the body. All diseases are mere effects, the cause being a partial or complete failure of the nerves to properly conduct the fluids of life."

4. "That the system be named osteopathy, because the rela-

tions of all the body structures are determined by the skeletal framework, and this is the key to the processes of adjustment."

These propositions can be riddled in all directions. They are hopelessly "cribbed, cabined, coffined and confined." To grant a license to persons holding such views would be a crime on civilization. To make this still clearer, let me take a few statements from an article by Mason W. Pressly, one of the professors in the Philadelphia School of Osteopathy. Here they are:

1. The life is in the blood.
2. The normal flow of the blood is health.
3. Any obstruction to such flow is possible disease.
4. Removal of such obstruction is scientific cure.
5. The means of such removal are supplied by the body itself.
6. This supply determines the method of procedure.
7. This procedure must be natural.
8. Being natural, the results are permanent.

The foregoing statements on the blood, the cause of disease and its cure are followed by a number of others which are so remarkable we wish to give them publicity:

1. "The law of life and disease and death is within the body, not without it."

2. "The law of the organism should dominate the law of environment, and not be dominated by it."

3. "The body should assimilate the world to itself, and not be assimilated by the world."

4. "The principles of initiation and spontaneity are superior to the state of passivity, reaction and plasticity."

5. "The body is a process capable of action through its own potencies, rather than a product to be reacted upon by the formulations of the apothecary."

6. "As the body is autotoxic and may produce within itself worse pathological conditions than can be made without it, so it is also autotonic, and may reduce these pathological conditions."

7. "The body is auto-biological and auto-chemical, and can produce better formulations within its own laboratories than can be made in commercial laboratories, and so the body is autotherapeutic."

8. "There are conditions of self-sufficient production, and equally, conditions of self-sufficient reduction in all the processes that tend to disease or health."

Here you have osteopathy in all its nakedness, exhibiting to view an erroneous physiology, a false pathology, and, withal, a most dangerous therapeutic, because founded upon wrong pre-

mises. It is only a system of manipulation indiscriminately applied. Here we have the old bonesetters, Swedish movement curers, and such like revived under the name of osteopathy.

With regard to Christian science let me quote a few statements from Mrs. Eddy's writings: "What you call neuralgia, I call an illusion"; "A Christian scientist never gives medicine, never recommends hygiene, never manipulates"; "My publications heal more sickness than the unconscientious student can begin to reach"; "Anatomy, physiology, treatises on health are the promoters of sickness and disease"; "It is morally wrong to examine the body in order to ascertain if we are in health." The late J. P. Sheraton, principal of Wycliffe College, wrote thus: "Christian scientists are disqualified by their principles and methods from bearing impartial and reliable testimony to the existence and character of disease. They are incompetent to diagnose, both from their want of knowledge and their repudiation of medical science; and by their self-interest and charlatanry they are disqualified as trustworthy witnesses." In a similar strain, I. M. Haldeman, D.D., pastor of First Baptist Church, New York, writes: "Turn from this thing which, calling itself Christian science, is neither scientific nor Christian, and, beneath its indecent defiance of science and its treacherous betrayal of Christ, conceals the face of antichrist and the form of Satan." Frederick W. Peabody, LL.B., of the Boston Bar, who had an unusually good opportunity of knowing the real truth about Christian science, because of his connection with litigation where this cult was involved, makes these startling statements: "The founder of this pretended religion, this bogus healing system, audaciously and irreligiously professing equality of character and of power with Jesus, has, throughout her whole long life, been in every particular precisely antithetical to Christ. Sordid, mercenary, unprincipled, the consuming passion of her life has been the accumulation of money, and she has stopped at no falsehood, no fraud and no greater wickedness that seemed to put her in the way of adding to her accumulations." This fearful indictment was made some time prior to Mrs. Eddy's death, when she had ample opportunity to deny it, but she was as silent as the grave. Again, Mr. Peabody states: "The truth is, Mrs. Eddy's miraculous cures are all frauds, every one of them, and the failure of attempting healings would prove them to be frauds, and she does not wish to discredit herself." This was also said during Mrs. Eddy's lifetime. Further, Mr. Peabody tells us: "I know a woman who was a successful healer for fifteen years, and as conscientious as any of them, and

she is now frank enough to say that she never healed anyone of any real disease or serious indisposition in all that time, and doesn't know of any other healer who did."

In the New York *Sun* for 16th December, 1898, Mrs. Eddy made this statement in a letter: "I challenge the world to disprove what I hereby declare. After my discovery of Christian science, I healed consumption in its last stages, that M.D.'s, by verdict of the stethoscope and the schools, declared incurable, the lungs being mostly consumed. I healed malignant tubercular diphtheria and carious bones that could be dented by the finger, saving them when the surgeon's instruments were lying on the table ready for their amputation. I have healed at one visit a cancer that had eaten the flesh off the neck as to expose the jugular vein so that it stood out like a cord." This declaration by Mrs. Eddy is a trump card with the Christian scientists. Just look at the brazen impudence of this challenge. She gave no names or addresses, and in this way escaped the investigation she seemed to invite. But this is in keeping with Mrs. Eddy's cunning and impudent methods in other things. But in the New York *Sun* for 1st January, 1899, Dr. Charles A. L. Reed, of Cincinnati, a well-known physician, published a challenge to Mrs. Eddy that he would furnish her with such cases as she said she had cured, and that, if she cured them, he would proclaim her power. Silence as deep as death rested on Mrs. Eddy's lips, and Dr. Reed never heard from her.

And this is the thing that seeks the legal right to treat people and charge for the same! Never has the medical profession seen born into existence a more hideous monster than Christian science when we speak of it as a healing cult. No chemistry, no anatomy, no physiology, no bacteriology, no diagnosis, no medicine, no hygiene, all, all a great nothing: for there is no matter, and all disease is an illusion, a mere myth: yet the Christian scientist wishes to treat this illusion, and charge for doing so! This is a dragon that the St. George of the medical profession must boldly encounter. We fight for truth, these various cults for error; but remember the words of Bryant:

> Truth crushed to earth shall rise again;
> The eternal years of God are hers;
> But Error, wounded, writhes in pain,
> And dies amid her worshippers.

Optometry is only a small piece of ophthalmology, and this, in turn, only a portion of the whole field of a medical course.

Chiropractic and osteopathy are only portions of manipulation, and this again a very minor part of therapeutics in general. Christian science is only a phase of suggestive treatment, and founded on gross ignorance and greed at that. Contrast these abominations that seek recognition to diagnose and treat disease, and charge for this shoddy attention, with the medicine, and surgery, and science that are to be found in the war zones to-day, where sepsis is held under control and contagion and epidemics averted. Set alongside of this the teachings of Mrs. Eddy that "a Christian scientist never recommends hygiene," and then turn to the work of the American Red Cross in plague-stricken Serbia!

There is one Act on our statute book to which I desire to refer. The Workmen's Compensation Act does great injustice to the medical profession. While the Act was under consideration representatives from the profession, and especially from the Academy, pointed out very clearly in what way the Act should be framed in order to do fairly by the medical profession. These requests and suggestions were set aside in a most cavalier manner, and the Act in its present form became law. Since then this Academy, in conjunction with other medical bodies, has sought for reasonable amendments to the Act, but without meeting with much encouragement. Throughout this great province in all its public hospitals, orphanages, charities and homes for the care of the poor, and in the homes of the people, whenever and wherever the call comes for medical or surgical help for the poor, the medical profession at all hours of the day or night has responded, and without fee or thanks. On top of this immense service to the public, the Legislature of the province has imposed upon the practitioners another great responsibility in the carrying out of the Workmen's Compensation Act; and, shameful to tell it, has made no provision for payment when that responsibility has been honorably discharged. Were the Act for a pure charity, as in the case of the Hospital Act, it would be quite different; but this is a purely business and monetary Act, and there is absolutely no justification for not providing for a fair remuneration to the members of the medical profession, who may from time to time give valuable services to the injured coming within the meaning of the Act. But there must be an end to this sort of thing. Patient and long-suffering as the medical profession has always been, there will come a time when it will be its plain duty to resist an unjust Act. For us the words of Junius that "the subject who is truly loyal to the chief magistrate will neither advise nor

consent to arbitrary measures." must become a living reality. If the authorities will not amend the Act, then it may be necessary to refuse to give professional attendance upon the injured. This might seem harsh, but it may have to be the last court of appeal. It is to be hoped that those who can easily avert such a state arising will do so.

The Council very carefully considered a plan whereby a brief, but carefully-prepared biographical statement shall be placed on file concerning each Fellow. At the annual meeting in May last this was unanimously concurred in. During this session steps will be taken to put this important feature of the Academy's work in operation. It will not be long before this department will be thoroughly appreciated and supported by all.

In conclusion, I thank you, gentlemen, for the honor you have conferred upon me, and ask you one and all to bend your efforts towards the lengthening of our lists of Fellows, the adding greatly to our accumulation of books, the advancing of our scientific attainments, the gathering of funds for a commodious building, and the promotion of good fellowship—for " friendship is the wine of life." We should so live and labor," said Henry Ward Beecher, " that what came to us as seed may go to the next generation as blossom, and what came to us as blossom may go to them as fruit." This may seem a heavy contract, but the sound, though homely, philosophy of " 'tis dogged as does it," will carry us to the winning post. As these objects are being gradually achieved we will all be ready to speak of the corner of Queen's Park and Grosvenor Street as Horace did when he thought of his beloved villa. " For me that portion of the earth smiles more sweetly than all others."

Among others who attended the American Public Health Association meeting in Cincinnati, Oct. 24th, were Dr. F. Montizambert, C.M.G., Ottawa, Director-General of Public Health, and Dr. E. P. Lachapelle, Montreal; also Dr. Charles J. Hastings, M.O.H., Toronto.

Of the 437 patients discharged from the Laurentian Sanatorium, Province of Quebec, in the past eight years, 90 per cent. have been traced. Of that number living and well there are 52 per cent.; invalids, 17 per cent.; dead, 21 per cent.; untraced, 10 per cent. The institution treated 196 patients as against 129 for the previous hospital year. Civilian as well as military patients are received.

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COMMENT FROM MONTH TO MONTH

The Canadian Army Medical Services in England and France have attracted widespread attention on account of the special investigation and report of Colonel Herbert A. Bruce, Toronto. Colonel Bruce sailed for England during the past summer, commissioned by the Canadian Government, or the Department of Militia, to make a thorough and searching investigation into all matters pertaining to the wounded soldier. Associated with him on a Medical Board were men of experience and ability, such as Lt.-Colonel Walter McKeown, Toronto; Lt.-Colonel Wallace A. Scott, Toronto; Lt.-Colonel Wilson, Niagara Falls; and Captain Hunter, Winnipeg.

Report has it that Surgeon-General Carleton Jones, C.M.G., Director-General of the Canadian Medical Military Services, is returning to Ottawa, but it is not announced whether he has been recalled or has resigned. Added to this comes the announcement that Sir William Osler, who has been Honorary Adviser in connection with Canadian hospitals abroad, has resigned owing to sympathy with General Jones.

From the quotations from the report of Colonel Bruce, printed in the public press, efficiency of conduct and operation of hospitals has not been commensurate with the undoubted surgical ability

Canada has sent abroad. There has been apparent lack of co-ordination and concentration in the management, or administration—let the blame lie where it may—of the Canadian Army Medical Service.

Colonel Bruce is one of Canada's most eminent surgeons, and his long association with hospital work qualifies him to speak with great authority upon hospital and surgical matters. He has not been content to speak of mere generalities, but backs up his observations and statements with tangible evidence of stated facts which cannot be controverted.

On the other hand, Surgeon-General Jones has had long association with military affairs, and has always been looked upon as an expert in all matters pertaining to the C. A. M. C. It seems to be quite clear that, like many another man in times of great trial and stress, he has had far too much administrative work for one mere man. Had this been recognized, and hospital administration placed under some one with experience and capability, in that particular line, greater efficiency and conservation of wastage might have prevailed in the service.

Whatever the cause and wherever the blame lies, and without first-hand knowledge of prevalent conditions, it is gratifying to learn that, almost without exception, our Canadian medical men are heartily commended for their work, no matter in what particular sphere they have been called upon to do it.

Everybody wants to see the Canadian soldier well taken care of, not only when abroad, but as well upon his return to Canada. The country can never forget its debt of gratitude to her brave and gallant sons, of whom far too many have already made the supreme sacrifice upon the battlefields of Europe, and it is but a feeble tribute one can pay to those of our fellow-citizens who are suffering most for humanity and civilization, for king and country.

But in one respect there is great reason for congratulation, for out of 52,000 Canadian casualties, only 450 odd have died of sickness. A record to be proud of! A triumph for the internist! Glorious for preventive medicine!

So by all means let the surgical section be perfected in every way possible. The best in Canada will not be too good for this work.

But in the face of it all, our people are more industrious, more sober-minded, more optimistic, and above and over all, more determined that that diabolical despoiler of civilization, German militarism, must be, shall be utterly confounded, and finally and completely overthrown.

THE DIRECT TRANSFUSION OF BLOOD: ITS VALUE IN HEMORRHAGE AND SHOCK IN THE TREATMENT OF THE WOUNDED IN WAR

By Lieut.-Col. A. Primrose, M.B., C.M., Edin., M.R.C.S., England, and Major E. S. Ryerson, M.B., Toronto.

No. 4 Canadian General Hospital, with the British Forces in Greece.

The direct transfusion of human blood from one individual to another is an operation of great antiquity, but in the history of medicine it has never been as extensively employed as it is to-day. From time to time transfusion of blood has been abandoned, largely because of technical difficulties in its performance, but of late years, as the result of the introduction of more perfect and less complex methods, the operation has become much more generally employed. Its value as a therapeutic measure in the treatment of many pathological conditions has in recent years been established on a scientific basis. Thus, it has proved of great service in the treatment of hemorrhage, shock, illuminating gas poisoning, and of more doubtful value in pernicious anemia and certain toxemias.

The writers will not review the observations which have been made, in recent medical literature, regarding the value of transfusion in the multitudinous conditions in which it has been used; we propose to restrict our observations to the value of direct transfusion of blood in the emergencies of military surgery. There may be some question as to its efficacy in many of the conditions in which it has been employed, but in hemorrhage and shock, more particularly in shock accompanied by hemorrhage, its value has been proved beyond a shadow of doubt. We may assert that we have no more efficient means at our command to save life in cases of severe hemorrhage than by the direct transfusion of human blood from one individual to another. This has been proved not only in traumatic hemorrhage (primary and secondary), but in hemorrhage from such conditions as gastric ulcer, typhoid ulcer, ruptured extrauterine pregnancies, the hemorrhages of the new-born and in hemophilia.

If we enquire into facts which are known regarding the effect of introducing human blood into the vascular system of an individual suffering from hemorrhage, we realize the diffi-

culty and complexity of the problem involved in our effort to appreciate the full result of transfusion. As regards the transfused blood, we have no precise knowledge concerning the fate of the corpuscular elements nor of the plasma. The possibility of the harmful effect of lysins or agglutinins in the blood of the donor or recipient has been feared, but this has been greatly exaggerated. A large amount of clinical evidence has accumulated to warrant us in assuming that no serious harm is to be anticipated from such sources. The laboratory tests for hemolysis and agglutination may be carried out if time and facilities permit, but they are not necessary, and are by no means trustworthy. The laboratory findings in hemolysis, for example, have been found at times at variance with the actual results obtained in the living body. No fatal result has hitherto been reported from either hemolysis or agglutination.

The danger of the transmission of disease makes it essential we should enquire into the past record of the donor, particularly as to whether or not he has had syphilis.

The results of transfusion stand out prominently and are unquestionably of enormous value in the treatment of hemorrhage. These are, first, it increases the power of coagulation of the blood, and, second, it improves the local resistance of the tissues to infection. These facts have been recorded by a number of observers over a large series of cases, and have been shown in the most striking fashion in the cases of secondary hemorrhage which we have personally treated by transfusion. If we stopped there and claimed no more for transfusion, our contention in urging its employment in such cases would be justified. There are, however, other effects which are more difficult to analyse, and yet which we are warranted in believing are of great service. If we introduce, say, a litre of blood with all its constituent elements into the vascular system of an individual suffering from the direct effects of a severe hemorrhage, and if we have reason to believe the transfused blood takes on its normal function in the recipient, the ideal therapeutic measure has obviously been employed. This is admittedly a very complex problem, and we acknowledge our ground is not as sure in the matter of conclusive evidence as it is regarding the effect upon the coagulability of the blood and the increased resistance to infection. If, however, we employ all known tests after transfusion and find no evidence of hemolysis we have strong ground for assuming that the donor's blood, in all its elements, circulates and functions in the recipient. If, for example, we find no evidence of hemoglobin in the urine, we

certainly have no laking of the red cells in the circulating blood. The possibility of phagocytic destruction of red cells in the liver cannot so readily be disposed of, and we have no means of determining this factor. The blood count does not help us to any extent, because we find, for example, that if a litre of blood is transfused into a patient who is exsanguinated the blood count is not necessarily altered, in spite of the fact that the red cells are low in our patient at the time. Thus, recently a patient with a red count of 3,000,000, received a litre of blood from a donor with a red count of 5,000,000. Two hours subsequently the red cells in the recipient were still 3,000,000, but his color was markedly improved, and his blood pressure and pulse were maintained at normal. Obviously, the introduction of the more concentrated blood resulted in an osmosis which quickly restored the former equilibrium and resulted in a dilution of the mixed blood now circulating. There was no evidence of hemolysis, and the result of transfusion was to increase probably by one-third or more the amount of blood circulating in his vascular system. The result was vast improvement in his general condition, with cessation of hemorrhage and rapid healing of his wound.

Cases illustrating the beneficial effect of the direct transfusion of human blood in hemorrhage have come under the observation of each of us. Unfortunately, one's clinical notes of cases occurring at home are not available for the record of complete details in this paper, but the main facts regarding two such may be cited. A lad, 16 years of age, had a deep cut inflicted by an axe, in the calf of the leg. The wound suppurated and secondary hemorrhage from the posterior tibial artery occurred. He was sent to hospital, and in the clinic the artery was tied high in the wound; hemorrhage recurring, the vessel was ligatured through a fresh incision at the lower end of the popliteal space. Subsequently the wound continued to suppurate, the pulse was rapid and thready, and he steadily lost ground. Direct transfusion of blood was undertaken, the lad's brother acted as donor, and by means of Crile's cannulæ the operation was performed and a considerable amount of blood was transfused. Towards the end of the operation the lad spontaneously expressed himself as feeling better, his pulse was no longer rapid, and the blood pressure improved. Subsequently the wound became healthy, no further hemorrhage occurred, and he made an uninterrupted recovery. Another instance in the clinic of one of us was the case of a girl exsan-

guinated by repeated hemorrhages from a gastric ulcer. Her physician considered her condition most critical, she was blanched and had a rapid pulse, low blood pressure and sighing respirations with restlessness. After transfusion she immediately improved, and made an uninterrupted recovery with no recurrence of hemorrhage. Several other instances might be quoted from our experience at home were our notes available. Two examples from our hospital in the field at Salonika may be noted in some detail.

The first is that of a corporal, *æt.* 42, who was admitted to No. 4 Canadian General Hospital on Dec. 17th, 1915. He had been knocked down by a motor lorry, the wheel passing over his left thigh and left arm. There was a compound comminuted fracture of the upper third of the femur and a compound fracture of the humerus above the insertion of the deltoid muscle. In both arm and thigh, torn muscle protruded from the wounds which were of a "bursting" character, and in the thigh on palpation the muscles seemed to be extensively torn away from their pelvic attachments. He had lost a great deal of blood and was in a condition of profound shock. The fractured limbs were secured on splints, with as efficient reduction as his condition would permit. It was impossible to administer a general anesthetic. Morphia was administered to relieve his pain and combat shock. He rallied somewhat but remained for some days in a critical state in spite of the administration of normal saline solution. On Christmas day (one week after admission) his condition seemed desperate and it was determined to transfuse human blood. A donor was easily found and we transfused 815 cc. of blood. The patient expressed himself as feeling better; he said he felt "warm," his pallid lips became red and his condition of utter exhaustion gave place to one of comparative comfort. His pulse became slow, regular and full. During the next few days improvement in his general condition was maintained. Unfortunately the record of the blood picture before transfusion has been mislaid, but subsequently the record is as follows:

Dec. 26.	Hemoglobin 36 per cent.	R.B. cells 3,050,000.
Dec. 29.	Hemoglobin 40 per cent.	R.B. cells 3,700,000.
Jan. 20.	Hemoglobin 41 per cent.	R.B. cells 3,660,000.
Feb. 11.	Hemoglobin 58 per cent.	R.B. cells 4,460,000.

The urine was tested for hemoglobin for a few days after the transfusion with negative results.

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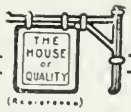
This patient left hospital on a hospital ship in good condition; the fractures had united but a sinus still persisted in the thigh.

A second case treated by transfusion in the Canadian hospital at Salonika was one in which hemorrhage threatened to prove fatal. Pte. Haynes, *æt.* 47, had been operated upon by one of our colleagues for hemorrhoids. The operation performed was excision and ligature. On the third day after the operation a considerable hemorrhage took place, this recurred on the fourth day when under a general anesthetic the area of operation was examined and some additional sutures inserted, the wound looking sloughy and unhealthy. Normal saline solution was administered and the general condition improved and bleeding ceased. On the fifth day hemorrhage once more occurred and the patient's case became critical. He was blanched with rapid pulse, sighing respirations and exhibited restlessness. It was determined to transfuse him without delay, and he was transferred to the operating tent for that purpose. The pulse was 150 and blood pressure 50. While waiting for the final preparation of instruments, etc., his condition became so bad that we feared he would die ere we started the operation. His pulse was hardly perceptible and very rapid. We transfused 1000 cc. of blood with excellent immediate results. The actual operation lasted 30 minutes, and when completed the patient had a pulse of 116 and a blood pressure of 96. The improvement was more than maintained. On the following day the pulse was 100 and blood pressure 110.

The clinical chart gives a detailed record of the pulse and blood pressure, not only before and after, but during the process of transfusion. It will be seen that the response was immediate.

A point worthy of note in this case is that not only did hemorrhage not recur but the wound, subsequent to transfusion, took on healthy action and healed readily. On the other hand while on a previous occasion the patient showed an immediate beneficial response to the action of normal saline solution, the hemorrhage recurred and the wound remained unhealthy.

Subsequent to the transfusion of human blood in these two cases, we tested the urine but found no hemoglobin. In neither case did we find any appreciable immediate increase in the red cell count. In the first case the record has already been given (*vide supra*), in the second case the red cells before transfusion were 3,000,000 with 50 per cent, hemoglobin, and three days



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subsequently the record was practically unaltered as it was also three hours after the operation. In both cases a normal blood picture was, however, slowly attained.

These cases sufficiently illustrate the beneficial effect of the direct transfusion of human blood. One may add that no harm resulted to the donors from the withdrawal of such seemingly large quantities of blood. They complained of little or no discomfort and were able to return to duty after a brief interval.

The apparatus used is very simple. The accompanying diagram illustrates it sufficiently well. A glass cannula is introduced into the median basilic vein and is attached to a 20 cc. glass syringe by an intervening piece of rubber tubing. The glass cannula is placed in the proximal end of the divided vein of the recipient and in the distal end of the donor. One should have if possible 10 syringes. These are all sterilized by heat and are all coated internally with liquid paraffin. This is accomplished by first dipping the plunger of the syringe in the paraffin and then, after attaching the tube and cannula, the paraffin is drawn up through the whole apparatus and expelled. An essential part of the procedure is to prevent any stagnation in the flow through the cannula during the operation. This is accomplished by using normal saline solution as a substitute for blood where a syringeful of blood is not available. Thus, for some reason the assistant who is drawing off blood from the donor may encounter some momentary cause of delay; under such conditions the surgeon takes a syringe full of normal saline solution and by slowly pressing the piston of the syringe, keeps a current of fluid moving in the cannula of the recipient until such time as the syringe full of blood is available.

The uncoupling of the syringe is always made at its junction with the rubber tubing; pressure on the tubing between thumb and finger is sufficient to control the flow during the process.

A current of blood or normal saline solution is constantly kept up. The amount of normal saline solution thus introduced is negligible as it is introduced very slowly. Conditions may arise where there is some delay which necessitates the similar use of normal saline solution in the case of the donor. Here, too, the current of flow must be constant. Another point of some importance which one learns by experience is that after about 500 cc. has been transfused it is advisable to employ syringes newly coated with paraffin, otherwise there is a tend-

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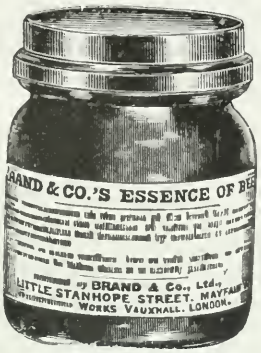

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ency to clot. The operation may be carried out very rapidly, and in our experience, without difficulty. One great advantage over any method in which the donor and recipient are buckled together by cannulæ, is that both individuals are free to move about and are able to alter their position or take a drink, etc., without interfering with the operation. Those who have tried both methods will realize the tremendous advantage in this, particularly if the recipient is very ill.

The apparatus we have described is not new. The principle of the syringe and cannula method was first brought to our attention by Captain L. Bruce Robertson, one of our colleagues in Toronto at the Hospital for Sick Children there. He had employed it in a considerable number of instances with most gratifying results in such cases as "hemorrhage in the newly born" and in hemophilia. Captain Robertson in turn obtained the idea from one of the New York clinics; unfortunately we are unable to obtain the literature which would enable us to place the credit where it is due.

The advantage of the direct transfusion of human blood in the cases of severe hemorrhage we encounter in the emergencies of military surgery cannot, to our minds, be overestimated. In cases of secondary hemorrhage with sloughy wounds it is the ideal treatment, and has great advantages over normal saline solution; we know the latter diminishes the coagulability of the blood and the former increases it. Further, the transfusion of human blood reacts locally upon the wound and induces healthy reaction there. Lastly, we have reason to believe that all the elements of transfused blood function in the recipient. If such be the case, it is undoubtedly the ideal therapeutic measure in hemorrhage, and in cases where there is shock plus hemorrhage.

Recent articles show that hemorrhage is one of the main causes of the fatal issue in bullet wounds of the abdomen—most writers, indeed, placing it as the chief cause of death. If such cases live long enough to reach the operating table their chances of recovery would undoubtedly be vastly improved if transfusion of human blood were undertaken either while the operative procedure were in progress or immediately afterwards. The symptoms due to hemorrhage and shock will be lessened and immediate beneficial results will be obtained.

Our former colleague, Capt. L. Bruce Robertson, has successfully demonstrated the value of the treatment in Northern

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France, where he has employed it in No. 2 Canadian Casualty Clearing Hospital. Unfortunately we cannot give details of his cases, but in private correspondence he asserts that the results obtained have been most gratifying. The apparatus is simple and could well be employed in hospital units near the front. Capt. Robertson was prepared to carry it out in a field ambulance unit if necessary.

Note.—Since preparing the above paper for the press, we learn that Capt. Robertson has published the details of four cases successfully treated in France in an article entitled "The Transfusion of Whole Blood" in the *British Medical Journal*, July 8th, 1916.

THE OCULAR CAUSES OF HEADACHE

Bedell reaches these conclusions:

1. Ocular headaches may be the result of a refractive muscle error or local inflammation.
2. Ocular headache, although most common in the afternoon, may be at any time of day or night.
3. The headache of middle life demands careful ocular examination.
4. Ocular headache may be present even with perfect distant and near vision.
5. In no case is the eye excluded until a cycloplegic has been used.
6. Occipital pain and nape of the neck discomfort extending even to the shoulders is often of ocular origin.
7. When proper, correct lenses are ordered, they must be worn as directed and must be accurately placed before the patient's eyes. *Albany Medical Annals.*

Dr. J. R. Irwin, Cobourg, Ont., after serving a year with the Royal Medicals in France, was summoned before His Majesty King George and decorated with the Military Cross. Dr. Irwin went down into the front line at midnight when the enemy blew up a mine, burying two British soldiers. He went down the shaft thirty feet, and out three hundred feet, bent double, excepting when he had to crawl on his hands and knees, and spent an hour working with the men.

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Original Articles

THE LAW AND THE DOCTOR

An Address before the Academy of Medicine, Toronto, Nov. 7, 1916.

By William Renwick Riddell, LL.D., Etc.,
Justice of the Supreme Court of Ontario.

In accepting with much pleasure, as I did, the invitation of your President, to address your Academy again, I requested information as to the matter with which my address should deal; and I have been furnished with a list of subjects upon which some one or other member desires me to speak.

The subjects have a familiar ring; I have met them time and again; but they are of sempiternal interest to the medical profession, and deserve respectful treatment.

Many difficulties disappear if, leaving the separate fact, the superficial, we seek after the principle, the essential. That the medical man may understand, or at least may rightly appreciate, the rules of law, he must consider the basis of law, not alone the individual dictate—(were it not that I might be misunderstood I would say "prescription").

Law and Medicine rest upon wholly different bases, and should, and in the nature of things must.

Medicine—I mean true scientific medicine—endeavors by all legitimate means to discover the workings of nature. Control over nature she has none, and can have none. Whether inherent in the very essence of things, as the Pantheist thinks, or implanted therein by an Almighty God, as the Christian holds—whether "it must needs have been so," or the Supreme says "I willed it to be so"—there is a system, a manner of working, a re-

sult following a cause, inexorable, certain, inevitable.[1] It is upon that philosophy that all natural science is founded; and if that foundation fail, chaos is come again. No man can change the sequence of cause and effect in nature. He may indeed remove obstacles against the working of some cause or remove the cause itself, or add or substitute other causes; but he cannot himself make a cause operate differently from the rigid rule laid down for it by the nature of things or the Creator.

The rules of cause and effect in nature are generally called the "laws of nature"; and it is to some extent at least due to this terminology that medical men are often led astray in their conception of the law of the land—the rules governing in legal matters.

The law of the land is in its origin based upon custom. Whether at all, and if at all to what extent, custom is based upon nature we need not enquire; it would lead us into another field, interesting indeed, but of little importance in the present discussion.

When humanity got tired of the primeval method of determining rights, and found it necessary to prevent the vindication of rights by personal and private brute force, it was necessary to find some Judge or arbitrator to determine between man and man. The arbiter must proceed according to some rule; and the rule he should apply he found in the same way as you and I determine how to act in the ordinary affairs of life.

Wherever men have associated together for any length of time, a course of conduct develops suitable in their view to their environment and the association. That course of conduct is a custom, and customs are from the earliest recorded time and earlier, and this in trivial as in important matters. How one man is to accost, to salute, another is a matter of custom, not only in the most polite and advanced but in the most uncivilized and backward societies. Thieves have their etiquette as well as members of the Synod, and stevedores as well as members of the Academy of Medicine.

When the Judge was called upon to determine the rights of two contending parties, he sought for the true rule of right, and

[1] This conception of the inexorability of the laws of nature is essentially modern. It has not yet made its way everywhere, but most of the opposition to its full acceptance is concerning the past, not the present. In medicine in the amulet days, the laws of nature were considered modifiable by human—and diabolical—means.

It is often said that all such matters are questions of evidence; but that is not wholly true. A few centuries ago, the favored one could, by reciting some incantation call to his assistance a legion of angels, good, bad or indifferent. Aladdin could, by rubbing his lamp, call the all-powerful genie to his service. Who would believe such things now? In the old law not long ago many a poor old woman suffered death—a legal murder—because legal evidence proved she was a witch, and God had said "Thou shalt not suffer a witch to live." Now, if fifty witnesses swore they saw an old woman ride a broomstick through the sky, no Judge would allow the matter to go to a jury, and no jury would convict.

It is not simply a question of evidence—the whole manner of looking upon nature has suffered a revolution.

found it in the customs of his people. What they had been accustomed to do was right for them, however it might be for another people.

Some customs there were which it was not thought by the people worth while to enforce, some virtues which were left in the realm of conscience. Even yet we have no law to enforce courtesy or charity[2]; we leave the cad to the reprobation of those whose opinion is worth having and the ungenerous to his own conscience.

But customs which the people thought worth enforcing became the rules of law. These depended upon the people themselves. An illogical people had illogical customs, a generous people generous customs; but whatever the custom was, that was the law.

This is what is meant by such maxims as "custom is the life of the law," "custom becomes law," "*mos regit legem*," "*mos pro lege*," "*leges moribus serviunt*," "*consuetudo est optimus interpres legum*," etc., etc.

An advancing community grows out of its old customs. What satisfied and suited the early folk irked their descendants. The law was unsatisfactory. In an advancing community the law is always unsatisfactory. Now law, to be law, should be fixed and certain: *Misera est servitus ubi jus est vagum aut incertum*.[3] Where a custom has once been determined to be law it would not do to permit a mere individual to say that it shall no longer be the law. In every society except the very most backward there is a law-making person or body, and that person or body has the duty of making the law fit the needs of the society. The legislator abolishes so much of the common law—that is, the body of customs—as is necessary, and thus modifies the common law.

England and those countries which derive their legal system from England (among them ourselves) have carried out this idea consistently. The customs which have been laid down as law remain law unless and until modifying legislation is passed; and the law is modified only so much and so far as the legislation says, either in express terms or by necessary implication.

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[2] There are and always will be duties of imperfect obligation, which the law will not think it worth while to enforce. The sneering backbiter will be allowed to pursue his dirty way unchecked by law till his slander does someone harm or he accuses someone of actual crime.

What the law will and will not prevent, depends on the people. In our country anyone is at liberty to malign the dead so long as he says nothing about the living. That is because we have not thought it worth while to protect the reputation of one who has gone where he cannot be harmed by detraction. Other peoples have the same regard for the dead as for the living; with them, *de mortuis nil nisi bonum—aut justum;* with us *de mortuis omnia.*

[3] This well-known legal maxim may be stated thus: Obedience to law becomes a hardship where the law is vague or uncertain. "The glorious uncertainty of the law"—really a blot not a glory—does not obtain in one case out of a thousand. In almost every case the real dispute is one of fact, not of law.

In the course of time a very great quantity of legislation has been passed, so that in many instances an express statutory rule has been laid down. Doubts as to the exact meaning of such legislation there may be, just as there were doubts as to the exact custom; but in all but a comparatively small number of cases the law is clear. Sometimes difficulty arises in the interpretation of language employed,[4] and the Judge must do the best he can to determine its exact meaning. Sometimes it is not quite certain what the common law, *i.e.*, the custom, was; and the Judge must do his best to find out. But once the meaning of legislation is determined, the custom clearly made out, the duty of the Judge is plain. He cannot change one jot or tittle of the law so determined. He may like it or dislike it; it may seem to him wise or unwise, just or unjust, reasonable or ridiculous; his duty is to apply it, and that only.

Law is man-made, not in the sense of being made by the Judge deciding a case, but in the sense of having been made for him by man. The lawyer, then, is interpreting the work of man, the mind of a community, recent or long past.

Let us take now the two professions and compare them. A medical man is attending a patient. He examines him to discover accurately his exact state, to apply the proper remedy, *i.e.*, to remove some obstacle to the proper and normal operation of organs or to strengthen some operating cause. He has been taught certain supposed "laws of nature," perhaps verified by high authority. These he believes *sub modo*, for he knows there may have been a mistake, and it is not only his right but his duty to suspect their complete accuracy. He must observe and again observe and ever observe; and if he finds that the "law" has been in fact wrongly formulated, the circumstance that it has received the assent of the most eminent authorities, nay, of all, is of no avail. No authority can make, unmake, or modify a law of nature. Sulphuric acid has the same effect on calcium carbonate in Fiji as in Potsdam, and it is just as unsafe to trifle with typhoid or explosives in Togoland as in Toronto.

No medical man will rise in indignation and condemn the "law of nature" which he has found and which, as he thinks,

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[4] In every language there must be ambiguity except in the very simplest conception. No matter how careful a legislator or a Judge may be, he cannot express his meaning with perfect clearness without a multitude of words and sometimes not even then. The cumbrousness of statutes and judgments is explained by this fact. If anyone thinks he can express without ambiguity any enactment in fewer or simpler words, let him try it—not simply talk about it.

will be harmful. We are told that when the Ptolemaic system of astronomy was explained to a certain King of Spain—

> the sphere
> With centric and eccentric scribbled o'er
> Cycle and epicycle, orb in orb—

he said that if the Almighty had consulted him before creating the universe he could have given Him some useful hints. But even that King did not suppose that he could change any of the order of the universe.

Nor are the laws of nature the subject of politics. When the man of science finds that potassium permanganate with sulphuric acid produces oxygen and he wants hydrogen, he does not form a Society for the Protection of Hydrogen and make it an issue at the next election. All the voters in the world cannot change the formula:

$$2\ K\ Mn\ O_4 + 3\ H_2\ SO_4 = K_2\ SO_4 + 2\ Mn\ SO_4 + 3\ H_2\ O + 5O.$$

and all the King's horses and all the King's men will not get free hydrogen from these re-agents. (I suppose I am hopelessly archaic in my nomenclature, but that was good chemistry forty years ago, when I took my degree of B.Sc.)[5]

The lawyer, Judge or otherwise (it is not well to draw too subtle distinctions) investigating a case tries to find the law applicable. He will delve into statutes, decisions, text writers' dicta, endeavor by all means and with all industry to determine what is the precise state of the law.

Often, like the scientist, he may fail; but, unlike the scientist, he cannot experiment and find out. He is in the position of a chemist without apparatus, who must do the best he can by analogy and reasoning with generally a good deal of conjecture added.

But assume that he has found it; it would be silly for him to fight against it in his particular case; it is not made by Judges at the present day and they cannot change it.

So far, the doctor and the lawyer are on the same plane; but now there is a difference. A law of nature is not made by man and cannot be altered by man; a "law" in the sense in which the word is used in the Courts is purely man-made and can be altered by the same power which made it.

If anyone, doctor, lawyer, tinker, tailor, soldier, sailor, is not satisfied with the law as already laid down, it is his right to try

[5] While there were some with the degree of B.A.Sc. before 1876, I think I was the first to receive the degree of B.Sc. from a Canadian university (Victoria University, 1876).

to have it altered. But let him try in the proper quarter and in the proper way; get at the Legislature, the only efficient power. It is as idle for a doctor or other person dissatisfied with a rule of law to gird at the Judge or at the lawyers as it would be for a lawyer to make it a reproach to the medical profession that arsenic is poison or smallpox infectious. The remedies are different. In medicine, apply other laws of nature; in law, get the law changed.

Another distinction between law and medicine is often lost sight of. The object of the profession of medicine is to cure the individual, to make or keep someone well (I am not losing sight of public hygiene—that is but a means for keeping individuals healthy, applied *en bloc* instead of individually.) It is to the doctor a matter of perfect indifference what may be the moral character, the disposition, the past, of the person committed to his care: he may be a Bill Sykes, a Seth Pecksniff or a Ned Cheeryble; the most hardened ruffian or a model citizen; he may have been injured in trying to murder or to burglarize, or in an heroic attempt to save life. The doctor's skill and care are given to one as to the other, and no distinction is made. Perhaps the doctor would be filled with disgust and righteous indignation, or with sincerest admiration, if he were to allow himself to contemplate his patient; but he does not; his business is to cure bad or good, vicious or virtuous, the most despicable or the most admirable.

I have just read an account of a soldier who deserted again and again in the face of the enemy. At length he was condemned to death. In despair he tried to kill himself, but succeeded only in blowing away a part of his face and jaw. He was put in the doctor's care to be guarded against infection, to be treated with all skill, to be nursed back to strength, and then to be stood against the wall and shot.[6]

With the individual as an individual, the lawyer has nothing to do; it is when he comes in contact with others that the lawyer's study begins. What are his rights? That means what is he entitled to receive at the hands of others? What is he entitled to keep from others? What may he do to others? Next, what are his duties? That means, what must he do to or for others, what must he refrain from doing to others? Rights and duties are the whole of the law.

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[6] General Sutherland, one of the leaders of the American Sympathizers in 1838, was condemned to death by a court martial in this city. While in the old Toronto gaol on the north-west corner of King and Church Streets, waiting for execution, he opened an artery in an attempt which nearly proved successful, to commit suicide. He was discovered in time, the hemorrhage stayed and his life saved. Ultimately he was set free and allowed to return to the United States; but his attempt at suicide had nothing to do with the Royal clemency. Our Canadians would have joyfully hanged him, but the Home Government was more merciful. I have told the story of this General in an article in the *Canadian Magazine* for November, 1914, "A Patriot General."

When Robinson Crusoe was on his island with the company of but his parrot and his goats, a doctor might find a place for his science—the lonely man might be sick or hurt, and the physician or surgeon would be a god-send. But there was no room for the lawyer—Crusoe had no rights to enforce against others, no duties to be enforced of him in favor of others. It may indeed be that in the course of evolution of humanity the lower animals will in time be vested with rights against their lord, but so far they have none. The trifling protection they now have is due not to any legal right they may have—no one has ever heard of a horse or a dog suing his master for damages—but to the sentiment of pity in the human mind. This is quite distinct from a right.

Let me explain by an example. If a man hurts another, he may be sued and compelled to pay money to him he has injured, and he cannot minimize the offence by killing him. A horse his owner should not hurt; but the horse cannot get damages, and it is a less offence to kill a horse than to torture him. The stray dog and cat which no one wants will be killed by the Society for the Prevention of Cruelty to Animals with the hearty approval of everybody; but no one is allowed to kill it by degrees. There is no Society for the Prevention of Cruelty to Imbeciles which will be allowed to kill them to put them out of their misery, no permissible euthanasia to put an end to a living death.

But once another human being arrived on the island, there were relative rights and duties—the right of Friday to be allowed to live, the duty of Crusoe to let him live. Life, liberty and the pursuit of happiness were the rights of each and it was the duty of each to respect the right of the other.

The law, whether custom or legislative, looks to the community; and the rules of law are the rules which are believed, rightly or wrongly, to be for the benefit of a community. An individual as individual, may do as he likes, so long as he does not interfere with the well-being of the community.

These considerations, commonplace as some may consider them, are often overlooked. I think they will solve many of the difficulties medical men feel in respect of the law.

Now let me take some concrete cases. A very eminent medical man says to me: "It would be interesting to note the working of the legal mind regarding such a question as this: 'Why should the legal definition of insanity and responsibility remain at variance with the medical conception, which is founded on experience rather than theory?'"

My answer is, there is no legal definition of insanity. No doubt there are a dozen or more medical definitions and half a

hundred medical conceptions of insanity. To practically every man will the word "insanity" carry a connotation differing from that to every other. But to the law the fact that a man is insane is as indifferent as that he has a broken leg. The doctor with his patient is wholly occupied with his condition and how best to remedy it, irrespective of how others may be affected; the law is concerned with how he will perform his duties toward others, and insist on his own rights, but is wholly indifferent to his condition of health in itself.

"If it should happen that a Judge were to be called in by a medical man to assist in the treatment of an insane man, he would necessarily follow out the methods of medical treatment. And so where a medical man is called upon to assist in the administration of the law, he must adapt himself for that occasion to the principles of the law. Neither Judge nor lawyer need, while assisting in the province of the other, abandon the views he holds in his own province, nor does he. To the medical man the insane person is a sick man to be treated for his disease, and it is a matter of indifference whether he is a criminal or not; to the Judge it is a matter of indifference whether a prisoner or a litigant be insane or not, the question is, is he capable of making a contract, is he responsible for his acts?"[1]

There are, as a rule, only three cases in which want of mental capacity will come in question: responsibility for crime, capacity to make a will, and capacity to enter into a contract. Curiously enough, it is only in the first that we find medical men finding fault with the law. In the other cases I have never seen or heard of any complaint. Nor has there been any complaint that those supposed to be insane are civilly liable in damages for their acts, just as one who unintentionally struck another would be. It is only when responsibility criminally for acts comes in question that we find any collision of views; and that I ven-

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[1] The quotation is from an article of my own, written at the request of the Honourable the Provincial Secretary, but at the instance of my dear friend, Dr. Bruce Smith. When Bruce Smith died, Ontario lost a useful and faithful public servant, the medical profession an ornament, I, in common with many of you, an interesting and delightful friend.

The article is headed "Insanity in its Legal Aspects," and will be found in the *Bulletin of the Ontario Hospitals for the Insane*, Vol. V, No. 2, January 1912, pp. 3-10. I would invite the attention of the profession to the treatment of the subject in that article. My medical friends must not take offence if I say to them that they cannot and should not segregate themselves from the rest of the community. When a Judge has appendicitis he receives the same treatment and is carved with the same knife as any other "layman"; the lawyer does not expect a doctor to treat him differently *in medicine* from anyone else. Why should a medical man, where he is a "layman"—that is, in law—expect different treatment or a different rule from any other layman? *Esprit du corps*, pride in our profession, are good things; but they must not be allowed to degenerate into claims of special rights and privileges.

ture to think is largely due to the intensive view the medical man naturally and properly takes of the individual.

Let us now enquire what our law says:

"No person shall be convicted of an offence by reason of an act done or omitted by him when laboring under natural imbecility or disease of the mind to such an extent as to render him incapable of appreciating the nature and quality of the act or omission and of knowing that such an act or omission was wrong."[8]

There are several things to bear in mind in this law:

(1) It is only those whose minds are defective *ab origine* and those whose minds are diseased who are to be excused. The man who makes himself drunk with alcohol or drugs is not favored, although indeed if intention be an element of the crime his state may be enquired into to determine if he had any, and, if any, what intention. In that I think all will agree the law is right.

(2) Then if the mind is so defective or diseased that the person cannot appreciate the nature of his act, all will agree that the unfortunate should not be punished criminally, whatever pecuniary penalty he may have to pay.

(3) Again, if he knows well what he is doing, appreciates the nature and quality of his act or omission, but from his abnormal state of mind is not capable of knowing that the act or omission is wrong, he should be excused.

It will be seen that it is the extent of mental power which the law considers, not the use made of it. For example, if the mind of the accused is of such a character that he is capable of understanding the nature of an act he will not be excused, whether he is sane or insane, if he allows passion to overcome him, prejudice or hatred to sway his conduct. Again, if his mind is of such a character that he is capable of understanding that an act is wrong, *i.e.*, forbidden by the law, he is not excused, sane or insane, if he sets up his own standard against the standard set up by his country and does that which is forbidden by the law, because he thinks it right.

Would it not be of the most evil consequence if anyone were to be allowed to decide for himself whether any act was right

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[8] This is section 19 (1) of the Criminal Code of Canada; but the statute is only a re-statement of the previously existing law as authoritatively laid down in the case of Daniel McNaghten who, in 1843, shot and killed Edward Drummond, when insane and laboring under morbid delusions. All the Judges attended the House of Lords and gave their opinion as to what the law was; and ever since the law so laid down has been followed in the British Empire. The opinions may be seen in Vol. 10 of Clark and Finnelly's *Reports of Cases in the House of Lords*, pp. 200 sqq., or in Vol. 4 of Howell's *State Trials*, new series, pp. 847 sqq.

The history of the evolution of the legal concept of responsibility is most interesting. Some day, if I am asked, I shall gladly address you on that subject.

or wrong? In the realm of conscience that is the case; but society will not allow acts to be done with impunity which may be fully approved by the conscience of the actor but which are forbidden by law. Charlotte Corday had the approval of her conscience when she killed Marat;[9] would her act be tolerated by any civilized people? Some of the Mormons have been impelled by a sense of religious duty to have more than one wife; do we overlook that act? Or take a case nearer still. Not long ago a man of German descent was charged with treason in this city. Would it be any defence that he thought all he did was called for by his love for Fatherland?

For its own protection, for the protection of society and of the individual, the State has laid down certain rules of conduct; these must be obeyed, or there is anarchy.

Our test, then, of responsibility is mental capacity; and so far I fancy most medical men will agree that the test is not unfair.

But it is sometimes objected, what about the man whose mind is such that he has a perfect apprehension of the act and its unlawfulness but has an irresistible impulse to do the act: who says

> "*Video meliora proboque*
> *Deteriora sequor.*"

and, knowing that an act is morally wrong and against the law, is constrained by his diseased brain to do the act which he himself reprobates?

There is a difference between an irresistible impulse and an impulse which is not resisted. We have all had the latter kind of impulse. Nay, the fear of the most severe punishment is not always successful in causing effective resistance to an impulse to do wrong. How many have said "I'll kill him if I swing for it"; and have done it? Bill Sykes had an impulse to kill Nancy, which he did not resist. No doubt he would have said with more than a mere modicum of truth that he could not resist. Should he therefore go free? No one would say so. The fact that the mind may be defective congenitally or diseased does not make it the less true that many of the so-called irresistible impulses are not truly irresistible but only unresisted.

I once charged a jury in a murder case in which the defence of insanity and irresistible impulse was set up:—"The law says to men who say they are afflicted with irresistible impulses 'if

[9] The murder, but the other day, of Jaurès in Paris, and of the Prime Minister of Austria, that of Lincoln by Wilkes Booth, of Garfield by Guiteau, etc., will occur to everyone.

you cannot resist an impulse in any other way, we will hang a rope up in front of your eyes and perhaps that will help.'"

Would it not be unsafe to leave open a defence grounded on supposed irresistible impulse? (I shall assume that there is such a thing.) If such a defence is open to the insane, it must needs be open to the sane; and the undoubted fact that as a rule in the insane the power of self-control is weakened and they are (speaking generally) prone to act on impulses does not affect this question.

I am not at all concerned to defend our law. I did not make it. If anyone does not like it, let him make an appeal to the proper quarter and get it changed. But before he does so, let him consider not alone the accused, but the safety of the community; let him carefully study the works of those who have seen the matter on both sides and let him consider whether it is not better to have the law as it is than to open such a line of defence, pregnant as it is of danger and liable to great abuse.[10] In our system, the Minister of Justice considers each case on its own merits. He has every one convicted of murder examined by independent experts where insanity is suggested; and there never has been a case in this Dominion in which a prisoner has been executed in whom there was real reason to fear insanity or weakness of mind as the actual cause of the crime.

And, finally, the people of Canada would, I think, never agree to a change in the law. The defence of insanity has, in my experience and observation, had much more consideration from the Judge than from the jury.

Another eminent practitioner asks, "Why has not the doctor the same right as the lawyer to refuse to disclose what his patient tells him?" My answer is "He has"—and you cannot get up a quarrel with the lawyers or a grievance against them over that.

There is no such thing in our law as a *solicitor's privilege* to refuse to answer questions concerning what his client tells him. What does exist is the privilege of the client, and for the protection of the client, not for the protection, glory or advantage of the solicitor. If the client consent to the disclosure the solicitor cannot refuse; the privilege may be waived by the client but not by the advisor.

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[10] I would advise all to read the very valuable treatise, *The Criminal Responsibility of Lunatics*, by Heinrich Oppenheim, M.D. of Heidelberg, LL.D. of London University, M.R.C.S. (Lond.), F.R.S. Med., etc. After a most interesting and exhaustive discussion of the law of various countries, he states as his final conclusion, p. 246:

"Without . . . claiming for the provision of the English law either theoretical perfection or a practical comprehensiveness wide enough to do complete justice in every conceivable case, I believe I am justified in maintaining that it is as safe and satisfactory a working rule as has yet been devised."

Let me add that no law ever has been framed or ever will or can be framed by man which will "do complete justice in every conceivable case."

The rule is based on the impossibility of conducting legal business without professional assistance and on the necessity in order to make that assistance effectual, of securing full and unreserved intercourse between the two. It has existed certainly as long as compulsory evidence has (say since Queen Elizabeth's time), although for a time the theory seems to have involved a regard for the oath of the lawyer. For a century and a half the reason of the law has always been laid down as I have given it.

But even the privilege of a client does not obtain in all cases. While every communication within the ordinary scope of professional employment is privileged, communications in furtherance of a fraud or crime are not privileged, whether the solicitor is a party to or ignorant of the illegal object.

Moreover, the communication must be made to the solicitor as solicitor. No privilege exists simply because one of the parties is of the legal profession; and, to make it even more clear that it is not the solicitor who has the privilege, let me add that "once privileged always privileged," and nothing the solicitor can do, either by getting rid of his client, taking up cases against him, suing him or anything else, enables the solicitor to get rid of the privilege of the client.

Do you like that law? or would you prefer to have your lawyer allowed to tell what he has found out from you—perhaps after he has turned against you? This privilege does not in our law exist in the case of any other relation than that of solicitor and client, and another to be mentioned later—"no pledge of privacy or oath of secrecy can avail against demand for the truth in a Court of Justice"—a communication to a clerk, a trustee, a banker, a journalist, what not, cannot come under the rule as to privilege. Members of a secret society bound by oath or sacred honor not to disclose what took place in the lodge-room have before now been forced to tell in Court what took place in their secret chamber.

The privilege also exists in the case of husband and wife. Neither can be obliged to disclose any communication between them during coverture.

Sometimes the privilege is claimed by clergymen, whether they call themselves priests or not. Not infrequently they say that even with the consent of the penitent they would not disclose the confession. Our law knows no such privilege. Nevertheless, when I was at the bar I never tried to force a clergyman to disclose what was communicated to him by anyone who sought him as a clergyman; and on the Bench I have always advised counsel not to press for an answer against an objection based on religious grounds.

In some countries these communications are privileged in the same way as communications to a solicitor; every country has the law it desires.

There is in our country no such thing as privilege of a medical man to answer any question, any more than any other expert; there is no magic in writing the letters M.D. after one's name.

The claims sometimes made of privilege go much beyond anything found in the case of solicitors. For example, a medical man writes: "A doctor was asked, in the box, Did you treat Mrs. A. for morphinism? He refused to answer. Was he right? If not, why are lawyers and priests exempt under similar circumstances?"

These questions indicate a total misunderstanding of the fact; and if medical men, who are supposed to be better educated than the ordinary citizen, believe that such a privilege as is here suggested exists in the lawyer and priest, what must be the opinion of the mass of the people? "For if they do such things in the green tree, what shall be done in the dry?"

I have already said that there is no privilege in the priest; although from the tenderness with which our Courts treat all honest religious belief the priest or minister is generally not pressed by counsel. I do not know of any instance in Canada of a priest or minister being committed for contempt. Cases have been known in England, whose Courts we generally follow.

Nor would the solicitor be permitted to refuse to answer such a question. The privilege, so-called, does not allow a solicitor to refuse to answer all questions concerning his client; it extends only to oral and written communications between the client and himself, passing in professional confidence. A question similar to that which the doctor is said to have refused to answer would be, "Did you bring an action for breach of promise for her?" "Did you defend her in a divorce proceeding?" "Did you appear for her in the Police Court on a charge of indecent conduct?" and the like. No solicitor would venture to refuse to answer such a question; if he did, he would have occasion to repent his temerity behind the bars of the common gaol. The doctor spoken of by my friend was utterly wrong in law—if the fact be exactly stated.

There are many cases of confidential communication between intimate friends, between merchant and banker,[11] master and

[11] The right and duty of a banker to keep his customer's account secret like a similar duty on the part of a telegraph company, has nothing in common with the privilege we are discussing. All that disappears in court proceedings.

clerk, in which the person in whom confidence is placed would not voluntarily disclose the secret communicated in confidence. No gentleman would. He may protest against being compelled to do so, even if he is not prepared to go so far as a well-known person of the highest station, who is said, when called as a witness against a lady, to have "perjured himself like a gentleman." A doctor may be in the same position; he often is; and he will naturally feel a repugnance to make known what was told him by a confiding patient. His proper course is to state candidly to the Judge his objection and the reason for it. Unless the question is of great moment the Judge will advise counsel not to press for an answer. In most instances, indeed, counsel will *proprio motu*, withdraw the question. Not always; you will find an occasional cad even at the Bar.

But if the question be at all crucial the best of counsel will, in the interest of his client, require an answer. The Judge has no power to do more than advise. The doctor must answer or be committed for contempt.

My friend's doctor was undoubtedly wrong in law, and I should have unhesitatingly sent him to think it over in the seclusion of a cell.

In morals everyone must judge for himself when he will set himself against the law of his country—a law made for him and for me, but made by neither of us. The passive resister of England values the approval of his conscience more than he fears the penalty of the law; there have been and still are many martyrs to what they consider an unjust law; and there may arise cases in which a doctor will feel that as a gentleman he should rather suffer punishment than betray, even unwillingly, a trust. But he is in nowise different from any other gentleman, and he will have this feeling, not because he is a doctor, but because he is a gentleman.

If such a case arise he may in his seclusion from the world say with the old Cavalier[12]:

> Stone walls do not a prison make,
> Nor iron bars a cage;
> Minds, innocent and quiet, take
> That for an hermitage.

I have been wondering under what circumstances could such a question be asked of a medical man. There are two sets of cir-

[12] Richard Lovelace, who for his devotion to the King, Charles I, was committed to the Gatehouse at Westminster, 1642, and there wrote his famous song from which I quote. He fought in the service of France and afterwards of his own King. After the death of Charles he pined away and died in misery, poor, ragged and consumptive.

cumstances under which I can conceive of its being put; first, if the patient were trying to get damages from some one, and her past condition became material. If that was the case, a doctor would be simply dishonest if he helped to conceal the fact. It should not be forgotten that a witness, expert or otherwise, who assists a party—patient or otherwise—to obtain an undue advantage might just as well put his hand in the defendant's pocket and steal the money.

Or the patient may have been a witness, and it became necessary to test how far she was to be relied upon. Her treatment for morphinomania, especially if unsuccessful, would be most material, and should be disclosed. The Court is a place where fact is to be inquired into; and, hard as it may be, that a man's —more so a woman's—faults or weaknesses should be laid open, it would be harder if injustice should be done by concealment.

What I have said answers in principle several of the questions suggested to me; and I do not go into minute details.

Do medical men really desire the law to be as it is in some jurisdictions—to have a change made in it so that the same rule shall apply to them as to solicitors? If so, the proper course is to apply to the Legislatures.

As a true friend of the medical profession, I would give the same advice as that given by *Punch* to those about to marry: "Don't." The privilege, so-called, as I have endeavored to show, is no right given to the solicitor; it is a duty imposed upon him; and, *crede experto*, it is an onerous, disagreeable duty, and one which most solicitors would gladly be rid of if it were consistent with the good of the public. It is no advantage to them but rather a burden.

It might be well, too, to consider whether the people are so enamored of the expert evidence of medical men as to be likely to give them a special rank differing from all other expert witnesses—engineers, chemists, scientists of all kinds. (It may not be without interest to know that our lawyers cannot be expert witnesses in our Courts. The only experts are the Judges who decide the case.[13])

I have been asked to say something about expert evidence, but I addressed this body on that subject November 8th, 1910. The

[13] As law is man-made, there must be someone to decide what it is—experiment will not help—and that someone is the Judge. Lawyers, as experts, may argue before him as to what is the law, but they cannot be sworn to swear to what it is. The Judge must decide on his own opinion; and he is the only true expert. Where the law of another country (except England, whose law Ontario Judges are assumed to know) is to be investigated in an action, the evidence of lawyers skilled in the law of that country will be received as expert evidence. Our Judges are experts only in our own law.

address appeared in the *Canada Lancet* and the *Canadian Journal of Medicine and Surgery* of the following month and is readily available. The address received considerable attention in the medical press of England and the United States, and some criticisms were made upon it; but I see no reason to change one word of it; it still presents my best thought, and those interested are referred to the medical journals.

Several matters, too, are suggested for discussion, the proper subject of lectures by a professor of Legal Medicine, an expert in Medicine, not in Law. While I venture to hope that I have qualifications in Medical Jurisprudence,[14] I make no claim to special knowledge on the medical side, and I leave such questions to those who do.

One set of questions has to do with the law of evidence, a purely legal matter; but as medical men are likely to meet it now and then I deal with it briefly; I mean what are called ante-mortem statements.

The general rule of law is that nothing said out of Court by one person can be used as evidence against another; but there are a few exceptions, one of which is that "in trials for murder and manslaughter the dying declaration of the deceased, made under a sense of impending death, is admissible to prove the circumstances of the crime." This has been the law certainly for about two centuries and a half. You will note that the declaration is allowed in evidence (1) only in cases of homicide, (2) only that of the person slain, and (3) of him only when made under a sense of impending death.

When a patient has been assaulted and will probably die, the doctor will be well advised to have a magistrate or other officer of the law sent for, and leave the proceedings in his hands. In the absence of such, the doctor should make the patient understand that he will not recover; if possible obtain from him some acknowledgment of his appreciation of that fact (as any hope of recovery will vitiate the ante-mortem statement); take down in writing what the patient says of the circumstances of the crime (oral declarations are admissible but not so effective as

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[14] The terminology I employ is not universally adopted. In the sense in which I employ the terms, Medical Jurisprudence has to do with the law relating to medical men and medical cases; Legal Medicine with medical questions in matters which are or may be the subjects of litigation or which may come up in the course of litigation.

Let me illustrate by an example. A man is poisoned and dies. A medical man attends him. Legal Medicine has to do with the symptoms or evidence of poisoning; Medical Jurisprudence with the legal effect of this or that, of what the patient said, with whether this or that medical fact was evidence, etc. A Chair of Legal Medicine calls for a medical man with a legal turn of mind; one of Medical Jurisprudence for a lawyer with some knowledge of medicine. It is to me as absurd to have a medical man teach a branch of jurisprudence as for a lawyer to teach a branch of medicine—or for either to teach land surveying or theology—but *quot homines, tot sententiae*.

written); have him sign if possible, and in any case read the statement to him and procure his assent. It is best to take down all the patient says, no matter how seemingly irrelevant it may be; and it is imperative that the doctor shall assure himself that the patient is *compos mentis*—that he is saying what he means and knows what he is doing.

There is no law to compel a medical man to do anything in the matter, however bad a citizen he might show himself to be by neglecting to do as I have stated.

Most of the other questions may be answered in principle by saying that medical men are members of the body politic, citizens of a free country; they have the same interest in their country and their fellow countrymen as other citizens; they are not members of a caste having special privileges; they have precisely the same rights and duties as others. When I am asked, Should a doctor do this or do that? my answer is, Find out what an honest man sincerely desirous of doing the right thing, sincerely anxious for his country's well-being, influenced by no improper motive or dishonorable intention—what that man would do in the circumstances, that let the doctor do, and his skirts are clear.

In many cases it is not a matter of law at all, but of prudent conduct and decent regard for others. A married man consults a physician for what is euphemistically called a social disease; should the doctor tell the wife? There is no law as to that; no legal duty cast upon the medical man to keep the secret or to disclose it to the wife. What would an honorable, right-feeling man do? Would he allow an innocent woman to become infected with loathsome disease and made an invalid for life (I have seen such), or should he tell what may save her—tell what the husband should himself tell, and would if he were not a selfish hound? I have no answer; the law has no answer. Let each find an answer for himself in his own soul.

Many medical men are troubled as to their duty when they are in the presence of a probable crime. Much has been said and written on this subject. A very interesting article from the *British Medical Journal* is reprinted in the *Canada Lancet* for May, 1916, and will well repay perusal.

Let me say at once that in most cases of the kind there is no question of law at all, but a question on the one hand of medical ethics, and on the other, of the moral duty every man owes to the society of which he is a member.

Take an example or two:

A doctor sees a man break his leg, and is called on by the man in agony to help him, surgically or otherwise. He may pass by

on the other side like the priest and Levite; he is not answerable to the law. So a medical man may refuse to attend anyone, however sick and however willing and able to pay.[15]

A man standing on the wharf sees another's child fall in, which he might easily save by a little effort. The law does not compel him to lift a finger; he may stand and laugh at the child's struggles, ending in death, and he has committed no offence against the law.

Many years ago when I was Counsel representing the Crown in a trial for murder, it was proved that the man who had been shot lay all night at a neighbor's gate, and that the neighbor heard his shrieks and groans but did not come near him till the morning, when he found him at the point of death. I diligently examined the authorities in criminal law to see if I could not charge this callous brute with a crime. I could not.

Most cases of the doctor's association with a crime are of the same nature. The law lays no duty upon him—no legal duty, the neglect of which is an offence against the law—let him clear his soul before God and his fellowmen.

There are cases, indeed, in which the law is not silent, for example, anyone who, though absent at the time of the commission of the crime, procures, counsels, commands or abets another to commit it, is equally guilty with the actual offender. But the mere knowledge that an offence is to be committed is not enough, so long as there is nothing done to encourage or aid its commission. Some years ago I prosecuted in Belleville, a half-breed Indian[16] for the

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[15] This is not so in some countries. In some places it is thought that the monopoly given by law to the medical man may well place on him the obligation to exercise the monopolized art when called upon to do so.

In the ancient law of most countries the position of most men determined their rights and duties. This was so anciently in England; but now only the common innkeeper and the common carrier are obliged to serve all comers. The barrister is by the etiquette of his profession obliged to take any brief offered him, unless it be against some client of his, but may demand in advance any retaining fee he pleases; and thus he may in practice prevent his retainer in cases he does not like.

The change in law is a change from *status* to *contract*. The relative rights and duties between man and man are determined by the bargains they make, not by their station in life or their profession.

[16] The prisoner was Peter Edwin Davis, who murdered William Emory in September, 1899. Davis was said to be the grandson of a favorite officer of the Emperor Napoleon, who, when his sovereign was sent to St. Helena, came to Canada, went to the wilds of North Hastings, and there married the only daughter of an Indian chief. The only daughter of that union married a white man by the name of Davis, and several children (amongst them the prisoner) were the issue of this union. Peter Edwin Davis was a stalwart, muscular young man, over six feet in height, straight as a pine, swarthy and with lank black hair. The trial took place before Chief Justice Armour at Belleville, April, 1890, and the prisoners were brilliantly defended by R. C. Clute, Q.C. (now Mr. Justice Clute of the Supreme Court of Ontario) and the late S. B. Burdett, Q.C. I prosecuted for the Crown.

The evidence proved to be a demonstration that Mrs. Emory knew her husband was to be slain, but there was nothing to show that she approved of it or took any part in it. She was accordingly acquitted. Davis was convicted and hanged, dying as stolidly as he had lived. He showed no desire for life or fear of death. Mrs. Emory haunted the neighborhood of the gaol until the execution. She afterwards married again. A brief account of this case—singular in many points of view—will be found in the *Canada Law Journal* for 1898 (34 *Can. L. J.*, pp. 68 sqq.).

murder of a white man. The white man's wife knew that he was to be murdered but did nothing to encourage the Indian (who was in love with her) nor did she inform the authorities. I had her charged with murder, but she was rightly acquitted. Except under special circumstances there is no duty *in law* cast upon one man to protect another.

Again, anyone, who, knowing a crime to have been committed by another, receives, relieves, comforts or assists the criminal (say, for example) to escape or to evade the pursuit of justice, is guilty of an offence. There is no obligation *in law* on anyone to discover an offence, but if he knows it to have been committed he must walk warily. Mere knowledge is not fatal; some act is necessary, and that act must tend to enable the criminal to elude justice, "must tend to prevent the principal from being brought to justice."

Outside of these offences against the law, the medical man is left to his own conscience. All that was said by the Judges in the instances mentioned in the article already spoken of was an expression of opinion not of the legal duty but the moral duty, the duty as a good citizen, of the medical man. And of that every medical man must judge for himself.

Now let me take some concrete cases proposed for my discussion.

"A man tries to break into a house and is fired upon and wounded; he goes to a doctor's office for treatment and tells how he came by his wound and what he was doing, should the doctor report the case?" I answer that *more Scotico*, by another: "A man tries to break into a house and is fired upon and wounded; he goes into a neighbor's house for linen to bind up his wounds and tells how he came by his wound and what he was doing—should the neighbor report the case?"

"A man is attending a woman who has aborted and is very ill. He suspects criminal interference. Should he go on and treat the case and make no inquiries, or should he try to find out all about how she was operated on and by whom?"

Change the question by saying "friend" instead of "doctor," and find the answer.

Of course the doctor would go on treating the case. If he were prudent he would insist on another medical man being called in; but there is no law to compel him to do anything in the way of finding out the crime, if any. What he will do will depend on his conception of his duty to his country.

I shall at the proper time be very glad to give you my own views of the moral and civic duty of the medical man in such

circumstances; but this is not the time—I am discussing "The Law and the Doctor," not "The Doctor's Duty as a Citizen." That duty each must determine for himself. Sometimes it will be hard to say which of two courses is the better; sometimes one would choose the one while another of equal intelligence, honesty and patriotism, would choose the other.[17]

It may be that I am rather inclined toward magnifying the duty of the physician to his country and his countrymen in general; but I am quite sure that he must always in this enquiry be on his guard against the individualistic view. His patient must not be allowed by his nearness to hide the rest of the world; and the doctor should not swallow up the citizen.

In conclusion, you must allow me to say how glad I am to be permitted to meet you once more, to address you on subjects in which you and I have an equal interest. I try always to speak to you (as to all men) the plain truth as I understand it; but there is no one to whom the honor, the well-being and the well-doing of the medical profession is more dear, and no one who will be more delighted to be of service to you in any way.

At this time, when the world is in travail and the Empire calls all her sons, the medical men have been ever forward in devoted and unselfish service. Let me, as a Canadian and a Briton, express appreciation and gratitude; and hope that ere long the sun will shine again on a happy and prosperous Canada at peace.

[17] It is an utter fallacy to assert that because one cause of conduct is reasonable, honorable, etc., the opposite must be unreasonable, dishonorable, etc. We have recently had an instance of a hot politician asserting that the members of the opposite party were not loyal, basing his assertion on the fact that his own party was. Hundreds of instances could be cited of this silly practice—in politics, in religion, even in matters affecting the war.

FOCAL INFECTIONS

Dr. A. B. Leeds, Chickasha, Okla.: We have found that by beginning at the tonsils and teeth and then checking up the other possible foci, the tonsils or one or more teeth are usually affected with a definite strain of streptococcus or some allied or kindred coccus. In removing these foci in the teeth and tonsils with the other foci, we have not only relieved but also cured many patients whose condition had resisted every other known method of treatment, medical or surgical. Our practice is not to correct a chronic pelvic lesion, cystic ovary, appendix, gallbladder, etc., without removing the diseased tonsils and diseased teeth at the time of the operation, and since following this practice our results have been much more satisfactory. *J. A. M. A.*

Dominion Medical Monthly

And Ontario Medical Journal

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COMMENT FROM MONTH TO MONTH

A Board of Inquiry has been appointed in England on the Report of Colonel Herbert A. Bruce, and the reply thereto by Surgeon-General Guy Carleton Jones, C.M.G. Canadian information is to the effect that Colonel Bruce was for a time acting Surgeon-General; but fast upon the heels of this announcement came the further announcement that the Prime Minister had overridden the Minister of Militia, who has since resigned, and reinstated General Jones. The personnel of the Board of Inquiry is as follows: President, Sir William Baptie, whose name was suggested by the Director-General of the Imperial Army Medical Corps to Sir George Perley, the new Minister of Overseas Service; Colonel E. C. Ashton (Brantford, Ontario), C.O.C., Shorncliffe, England; Colonel John T. Fotheringham (Toronto), A.D.M.S., Second Canadian Division; Colonel A. E. Ross, M.P.P. (Kingston, Ont.), A.D.M.S., First Canadian Division; Lieut.-Colonel John M. Elder (Montreal), Third Canadian Hospital, Boulogne, France. Everything should be set right by a Board of the undoubted high-mindedness and capability these gentlemen possess. But not alone in the old land, but at home, in Canada as well, should matters be put right, if there are any to put right. Men who have relinquished

large practices for patriotism and a keen desire to serve their country should have British fair play. They above all others should be consulted in any rearrangement contemplated of the Medical Services, whether abroad or at home.

Canadian Casualties numbered 59,911 on the 31st of October, 1916. They were tabulated as follows: Killed in action, 9,457; died of wounds, 3,477; died of sickness, 490; presumed dead, 1,027; wounded, 43,245; missing, 2,245. The Militia authorities have not published the number of Canadian prisoners in the hands of the Germans. The remarkable small number of deaths from sickness should be a stimulus to recruiting; for, when a man enlists to fight for his country, he does not wish to be laid by the heels by the unseen enemies of mankind, the germs and the bacilli. Had like conditions prevailed on the western battlefront as in other campaigns, there would indubitably have been a largely increased list of deaths from sickness; but the splendid work of the sanitary service units, the public health men of the army, and the care and skill bestowed upon the sick, and, not the least, inoculation against typhoid fever, have produced these really excellent and wonderful results. It has been stated on the best authority that only one Canadian soldier so far has died of typhoid fever, and that soldier absolutely refused inoculation, though inoculation is compulsory in the Canadian Overseas Forces. All told, in the British Army, up to August 25th, 1916, there have been but 1,501 cases of typhoid, which were finally diagnosed as such—903 among inoculated men, and 508 among uninoculated men. There were 166 deaths, 47 in inoculated and 119 among uninoculated. In the same length of time there were 2,118 paratyphoid cases—1,968 among inoculated and 150 among men who had not been inoculated. In this latter list there were 29 deaths—22 among the inoculated and 7 among the uninoculated. Practically 99 per cent. of the British forces are inoculated; practically all the Canadian forces.

War, like surgery, is a red business. If the surgeon had to be surrounded by friends of the patient when operating, cautioning him to be provident in his cutting, careful in his spilling of blood; if he had his attention distracted from the object in hand by the excited and sympathetic friends of the patient—what sort of a successful operation would he perform? The good general will not have his men slaughtered needlessly. The greater the casual-

ties, the more need for new men, the more need for unity to win. Canada, having put her hand to the sword, must go forward as an united people for IN UNION THERE IS STRENGTH.

Indeed, every man in Canada must put this question to himself: Why am I not at the front? If we can all answer that question satisfactorily to our own consciences, then no one need despair of Canadian manhood. Having answered that question we should ever keep this one before us: What can I do to help?

The public press should put that last question to themselves expressly. They are the great moulders of thought and public opinion. Politics should be laid aside altogether. An united press stimulating an united people to give the Government of the day an united support in prosecuting our share of war will be soul-satisfying to all loyal British subjects that Canada is doing all that she can. What matters a few paltry dollars of graft here or there so long as Canada continues to pour that ever converging stream of British patriotism upon the western battlefront!

WAR HURTS ATTENDANCE AT THE UNIVERSITY OF TORONTO

Figures recorded to date in the Registrar's office at the University of Toronto show the ravaging effects of war on the enrollment lists of all the Faculties of the University. The registration of students in Arts, Applied Science, Medicine and Forestry is practically complete, and the records show that in some cases the number of students now enrolled is less than half that of 1913-14. The approximate figures to date for 1916-17 are: University of Toronto, 200; University College, 557; Victoria, 309; Trinity, 81; St. Michael's, 168; or a total in Arts of 1,215, against 1,853 in 1915-16, 2,161 in 1914-15, and 2,574 in 1913-14. Applied Science—1916-17, 192; 1915-16, 345; 1914-15, 563; 1913-14, 627. Medicine—1916-17, 399; 1915-16, 614; 1914-15, 660; 1913-14, 623. Forestry—1916-17, 10; 1915-16, 32; 1914-15, 48; 1913-14, 51. Totals (Arts and Science), 1916-17, 1,816; 1915-16, 2,844; 1914-15, 3,432; 1913-14, 3,875.

Undergraduates and graduates of the University of Toronto serving with the colors now number 3,020. Over 140 University of Toronto men have given their lives for their country.

Reviews

International Clinics. Volume III, Twenty-sixth Series, 1916. Philadelphia, London and Montreal: J. B. Lippincott Co.

In this issue there are three articles on Treatment; seven on Diagnosis; one on Pediatrics; two on Dermatology; five on surgical subjects; one historical. This makes a volume of decided interest to the general practitioner. Practitioners in Canada, desirous of getting some of the foremost articles of the day, may order their volumes through the Canadian agent, Mr. Charles Roberts, Unity Building, Montreal, Canada.

The Biology of Tumors. By C. Mansell Moullin, M.A., M.D., F.R.C.S. London: H. K. Lewis & Co., Ltd. Price, 3s. 6d.

In this small volume the author seeks to place the classification and biology of tumors upon a scientific basis. His conclusions are not generally held; but the reputation of the author is such that the views will command attention. The book is divided into two classes: I—Tumors due to the revival of the primitive power of sexual reproduction, gemmation tumors; II—Tumors due to the defects in structural development. The book is interestingly written.

Mortality Statistics, 1914. This large volume has been received from the Department of Commerce, Bureau of the Census, Washington, D.C., U.S.A.

Shakespeare and Medicine. By Sir St. Clair Thomson, London: Harrison & Sons. This is the annual oration of the Medical Society of London, 1916.

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News Items

Dr. F. A. L. Lockhart is President of the Montreal Medico-Chirurgical Society.

Dr. J. A. Cullum, Regina, Sask., who has been on active service for two years, is reported wounded.

Lieut.-Colonel Mackenzie Forbes has been appointed Medical Officer of the Montreal Military District.

Captain George D. Porter, Toronto, is looking after the laboratory of the Toronto Military Base Hospital.

The Canadian Government have rejected the proposal for exclusive Canadian hospitals for Canadian soldiers.

Drs. Jane P. Sproule, Victoria Reid and Isabella Wood, Toronto, have gone overseas for hospital work.

Dr. Fred LeMaitre Grassett, Toronto, has gone to England to visit his son who is with the Canadian artillery.

Lieut.-Colonel Thomas B. Richardson, Toronto, has been appointed President of the Medical Board in Toronto.

Dr. Wilson Johnstone, Spokane, after attending the Surgical Congress at Philadelphia came on to Toronto to visit his sisters.

Lieut.-Colonel Cameron A. Warren, Toronto, has been temporarily placed in command of the Toronto Military Base Hospital.

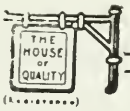
Dr. Clarence Young, Guelph, Ont., who was surgeon to the G.T.P., has been awarded the Military Cross for conspicuous bravery.

Dr. Hadley Williams, London, Ont., has gone to England to become chief surgeon in the Ontario Military Hospital in Orpington.

Dr. Rowland W. Young, formerly of Oshawa, Ont., is on a transport plying between Alexandria and Salonika. Previously he was in a hospital in Malta.

Dr. Charles K. Clarke, Superintendent of the Toronto General Hospital, has resigned, but will remain as Dean of the Medical Faculty of the University of Toronto.

The work of the Regina Clinical Society will be conducted the coming season by the following officers: President, Dr. F. J. Ball; Vice-President, Dr. E. E. Kells; Secretary-Treasurer, Dr. W. G. Leggett.



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It is understood that the Ontario Government will contribute $25,000 towards the Tuberculosis Hospital in Hamilton, Ont., for invalided soldiers suffering with the disease.

London, Ont., is to have a permanent hospital for tubereulous soldiers, $25,000 being contributed each by the Hospitals Commission, the province of Ontario and the municipality of London.

More than half the children now born in England escape vaccination. These are exempted by a declaration of conscientious objection made by parents. The exact percentage exempted in 1913 was 35.

Dr. Harry Morrell, formerly editor of the *Western Medical News,* and who has been in France the past two years at laboratory work, was home in Regina for a few days, but was almost immediately recalled to France.

Infantile paralysis in Ontario in September claimed seven deaths out of 76 cases in September, and seven deaths out of 31 cases in October. This shows satisfactory diminution, which was owing to prompt action on the part of the Ontario Board of Health.

Discharge Boards to examine convalescent soldiers are being appointed for different military districts in Canada. Drs. O. M. Jones, R. L. Fraser and W. J. C. Towalin have been appointed for British Columbia; and Drs. H. H. Chown, Popham and Galloway for Winnipeg and Manitoba.

The Canadian Minister of Railways is providing Intercolonial passenger cars to serve as hospital cars for invalided Canadian soldiers arriving at Canadian ports of entry, to convey them to convalescent homes and sanataria. This step has been taken at the instance of the Canadian Hospitals Commission.

The elections to the Medical Council of Saskatchewan resulted as follows: Dr. J. W. S. Miller, Battleford; Dr. G. A. Peterson, Saskatoon; Dr. J. F. Irvine, Yorkton; Dr. W. H. Wardell, Moose Jaw; Dr. D. C. Johnstone, Regina; Dr. H. E. Eaglesham, Weyburn; Dr. A. W. Argue, Grenfell.

The Western Medical News tells us that "The Johns Hopkins Hospital has practically set its stamp of disapproval on Dammerschlaf or 'twilight sleep' method for use in child birth. It abandoned its experiments in use of the method some time ago, and the conclusion reached is that the method is too dangerous, and that it is a menace to the life of a new-born child and too grave to warrant its use except under the most favorable circumstances."

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The old-fashioned open fireplace had two advantages. It was very cheerful and a good ventilator. It heated mainly through direct radiation—heat waves going in straight lines to the nearest objects. Its disadvantages are so well known that they need not be enumerated. Then came the gas log and the asbestos coals with the minimum of heat and the maximum of waste. They were liable to contaminate the air of the room with carbon monoxide, carbon dioxide, and other products of combustion, and were the producers of disagreeable odours. In a very few minutes after being lighted the room became stuffy, close, insanitary, and in many ways uncomfortable, if not dangerous to health. The gas fireplace has much to commend it, but these disadvantages could not be overlooked from a sanitary standpoint. Lately, however, they have been very much improved, and are rapidly displacing all other methods of heating single rooms. Indeed, they are now a delight, a comfort, and a perfectly sanitary heater which will undoubtedly hold first place for many years to come. One can now get the maximum of heat with the minimum of cost, ever-ready and rapid heating, safety, and freedom from odours and, with a self-locking device, as absolute freedom from danger as it is possible to secure. The flame of gas passing through perpendicularly arranged cones, or fuels of asbestos, about eight inches in height, fuels which are perforated in scroll-like design, gives an effect very pleasing to view, but, better still, gives a broad surface from whence the radiant waves issue, so that in a few minutes after ignition the heat may be felt several feet away, and there is a total absence of that uncomfortableness always experienced in the old-fashioned grates—a warm front with a cold back. The Consumers' Gas Company are handling these grates in Toronto, and they have a special trial offer for physicians which is a thoroughly satisfactory one. Read advertisement on page xiv.

It is interesting to note the various methods used by the large financial institutions in investing their money. It is useful, too, to study this matter, as the principal business of these concerns is to invest money. This refers to our large banks, insurance companies, trust companies, etc. It is especially interesting to

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note the large amount invested in municipal and Government debentures. If inquiries were made of the managers of these institutions, in nine times out of ten it would be found that this class of investment gives them the least trouble of any of the methods they used. It is the most desirable kind of investment for a busy man, as it causes no worry and the payments are prompt. Messrs. C. H. Burgess & Company, Traders Bank Building, Toronto, Ontario, state that they sell an immense number of bonds to banks, insurance and trust companies, as well as to estates and private individuals, and particularly to many medical men in this Province.

A Widely Useful Soap.—There are a number of so-called antiseptic soaps. Probably the most generally serviceable of these is Germicidal Soap, formula of Dr. Charles T. McClintock, which has been not inaptly designated "the soap of a hundred uses"—a soap made from pure vegetable oils and containing the powerful antiseptic, mercuric iodide. As indicative of the germicidal power of this soap it may be said that a solution of it containing one part of mercuric iodide in five thousand parts of diluent will destroy pus organisms in less than five minutes. It is undoubtedly the most available antiseptic for the general practitioner. There are no solutions to carry. The soap is always ready for use. It does not stain linen or tarnish polished instruments.

Some of the uses to which Germicidal Soap is adapted are these: To prepare antiseptic solutions; to sterilize the hands, instruments and site of operation; to cleanse wounds, ulcers, etc.; to lubricate sounds, specula and catheters; to destroy infecting organisms in skin diseases; to disinfect surface lesions; to control itching in skin affections; to make solutions for the vaginal douche; to destroy offensive odors; to cleanse the hair and scalp and remove and prevent dandruff; to disinfect vessels, utensils, etc.; to wash and sterilize bed-linen used in the sick-room. It is apparent from the foregoing that the soap is at once an antiseptic, disinfectant, deodorant, sterilizer, lubricant and cleanser.

As most physicians probably know, Germicidal Soap, McClintock, is manufactured by Parke, Davis & Co. It is supplied in two strengths, containing, respectively, one per cent. and two per cent. of mercuric iodide. It is well to specify "P., D. & Co." when ordering from the druggist.

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